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★

THE COVER

Merchandise is shown here on incoming trailer trucks, a portion of the 3,418-ft overhead conveyor system at the Milwaukee Road's Galewood Transfer freight house. Freight is loaded on these platform trucks and started on a "merry-go-round" to waiting freight cars. The conveyor system has shown a $50,000 saving in its first year of operation (See Page 19).

DISTRIBUTION AGE

ESTABLISHED 1901

Chestnut and 56th Sts., Philadelphia 39, Pa.

VOL. 51, No. 9 SEPTEMBER, 1952

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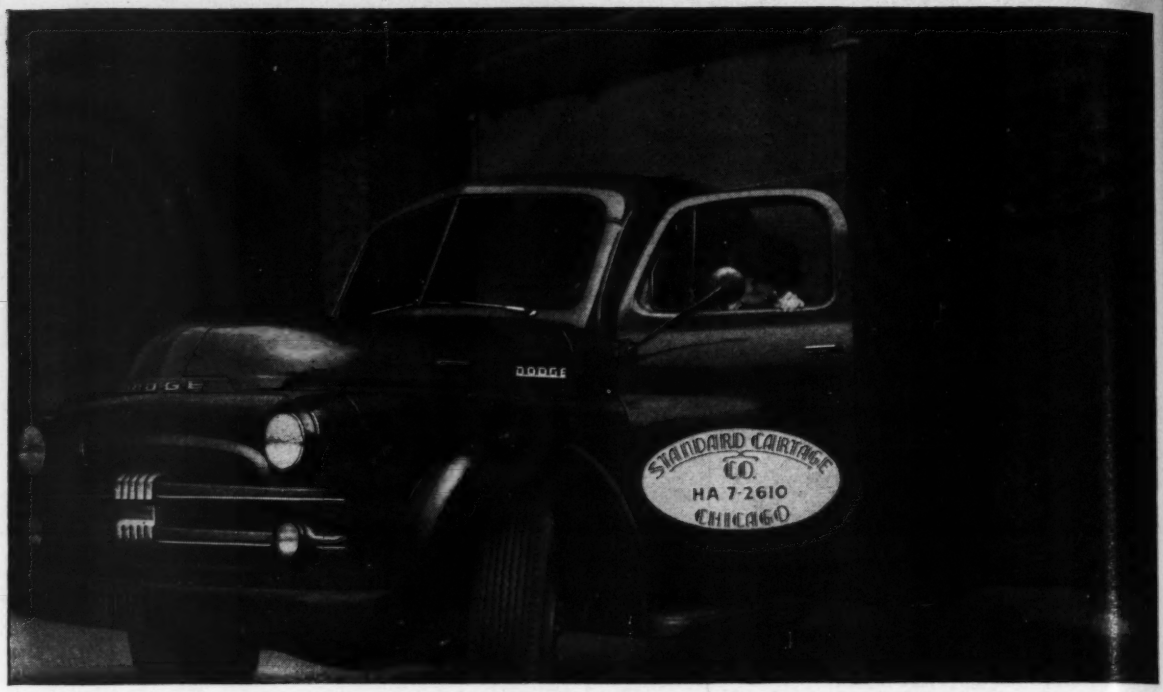

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. . . says **LEONARD GORTER**, *Standard Cartage Co., Chicago, Illinois*

"We've been in the cartage business for more than 18 years," says Mr. Gorter. "And although we use several makes of trucks, we have more Dodges in our fleet than any other make.

"No matter what the load, we can depend on our Dodge trucks to come through! Why—we have one old 1945 Dodge that has never been out of service—never even had the head off. And our newer units already have thousands of miles on them and are still turning in top performance!

"Because our Dodge trucks are *'Job-Rated'* for our needs, we have found that they will handle our particular hauling jobs better than other trucks. Most important, our Dodges don't hold us up with breakdowns and, since trouble is expense, our Dodge *'Job-Rated'* trucks save us plenty of money!"

Like so many other successful fleet operators, Mr. Gorter has learned that the extra value engineered into a Dodge pays off in extra operating and upkeep economy.

Consider a big Dodge 4-tonner, for instance. Its high-powered, high-compression engine gives you plenty of "go"—thanks to twin carburetion and exhaust system and other dependable Dodge advantages.

There's a lot more you'll want to know about economy-minded Dodge *"Job-Rated"* trucks. And there's a neighbor of yours who knows the full story. He's your friendly Dodge dealer—willing and able to help you.

DODGE "Job-Rated" TRUCKS

Circle No. 103 on Card, Page 51, for more information

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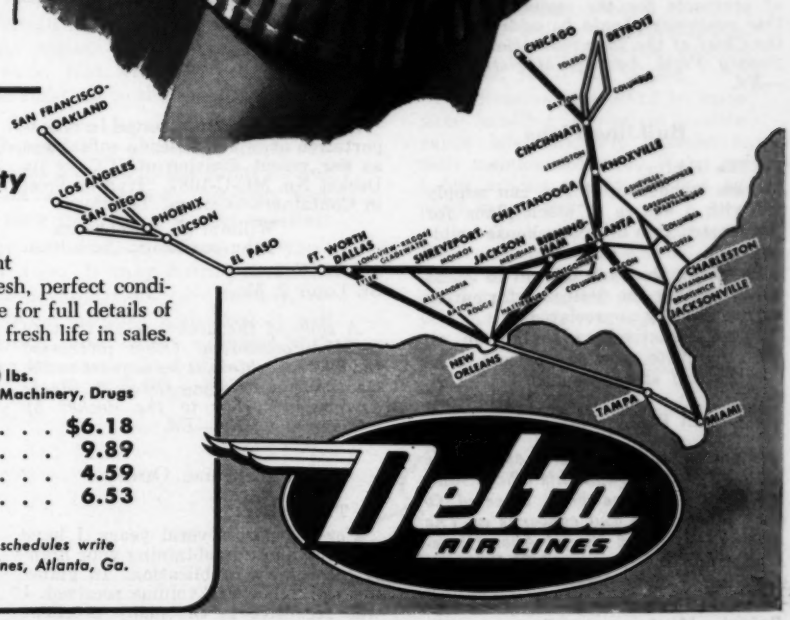


Circle No. 104 on Card. Page 51. for more information

LETTERS

TO THE EDITOR

Army Containers

To The Editor:

I am interested in an article that appeared in a recent issue relating to use by the Army of a container. I would appreciate it if you would tell me who the manufacturer is of this container and any other information that you may have relating thereto.

H. D. Fenske
Assistant Vice President
Great Lakes Steel Corp.
Detroit 26, Mich.

Contracts to design and construct experimental models of Transporter, Household Goods, Shipboard, were awarded to the following manufacturers: Dravo Corp., Neville Island, Pittsburgh, Pa.; U. S. Plywood Corp., New Rochelle, N. Y.; Weyerhauser Sales Co., Newark, N. J.; EDO Corp., College Point, Long Island, N. Y.; L.C.L. Corp., 230 Park Ave., New York, N. Y.

These firms were engaged for the manufacture of experimental prototypes only, and the final design was decided on after extensive experimentation with the different types. Recently a substantial order for transporter boxes was given to Watson Automotive Equipment Co., Washington, D. C.

Information concerning the offering of contracts for the manufacture of this container should be addressed to the Chief of the Transportation Corps Supply Field Agency, Marietta, Pa. —Ed.

Building Plans

To The Editor:

I am wondering if you can supply me with a source of stock plans for the construction of a warehouse building?

Anything that you can do to assist me in getting the desired information will be greatly appreciated.

I am tentatively planning on an initial unit to provide at least 150,000 cu ft of storage space.

E. M. Neil
West Palm Beach, Fla.

A source of stock plans, as such, is not available through this office. Similar inquiries have been directed to such individuals and concerns as The Austin Co., 16112 Euclid Ave., Cleveland, Ohio, and Stone and Webster, 90 Broadway, New York, N. Y., both prominent warehouse builders; or Robert Montgomery Brown, 1728 Spruce St., Philadelphia, Pa., and Frederick Stanton, 225 N. Michigan Blvd., Chicago, Ill., leading warehouse architects.—Ed.

. . . On the Railroad

To The Editor:

I read with a great deal of interest your editorial on Page 7 of the June DISTRIBUTION AGE and I approve whole-heartedly what you have to say.

I would be interested in knowing if this editorial ever hit the top brass in the railroad industry because there is where it should go.

H. M. Frazer
General Traffic Manager
F. W. Woolworth Co.
New York 7, N. Y.

We have no way of knowing, at the moment, what sort of an impression the editorial made with top railroad brass. We do know, however, by the number and character of reader replies, that we touched upon a subject which deeply concerns many of you. (Lest we gave the impression that all is wrong and nothing right with the railroads, you are invited to read the lead article in our August issue, beginning on Page 19.) We are grateful for your interest and solicit additional comment on this and other editorial matter appearing in DISTRIBUTION AGE.*—Ed.*

ICC Docket

To The Editor:

I am very much interested in transportation of commodities in containers as per recent decision of ICC in its Docket No. MC-C-1087, "Iron or Steel in Containers—Central Territory."

William E. Rosenbaum
Transportation Consultant
111 N. Fourth St.
St. Louis 2, Mo.

A copy of the docket is on its way to Mr. Rosenbaum. Other interested readers can obtain it by request to the Government Printing Office, in Washington, referring to the docket by number and title.—Ed.

Warehouse Query

To The Editor:

For the past several years, I have been fortunate in obtaining your highly informative publication. In glancing through every volume received, I was receptive to the many excellent modern suggestions and catalogued them in my mind and had the foresight to save all old copies.

This lucky foresight on my part, will now enable me to present a lucid plan for any future improvements and new construction that may enter into any expansion problems of my concern. In fact, I am so obsessed with the idea that I am writing you to help me along the lines mentioned below:

First, you must know that we are a wholesale grocer of canned and preserved foods.

With that in mind, could you either refer me to back issues of your publication referring to the most modern materials handling and operational design of a new, one-floor plant of approximately 75,000 square feet some 500 feet long and 150 feet wide; or simply suggestions as to: One floor operation: Unlimited load capacity: no basement. Private switch—6-car capacity: 2 unloading doors. Loading or shipping dock of about 6 doors. Coffee roasting department about 2,000 sq. ft. Positions for a snack bar, rest rooms, meeting room, entrance lobby. Office some 8,000 to 10,000 sq. ft. with a balcony located above loading floor and air conditioned. Ceiling height of about 16 to 20 ft. giving room for a sprinkler, fire protection system and allowing for pallet warehousing from start to finish.

Your issue of May, 1952, gives a lucid and excellent suggestion of floor construction and I do recall reading of one of the forwarding companies or railroads in St. Louis having that four-wheeled flat chain system that enables the stockman to extract one flat and load it and attach it to the chain system (overhead, I believe) to be sent to the checker and thence to the shipper.

Perhaps a resume of our system of production may give you the clues upon which the best type of suggestions may be based. When an order of groceries arrives and after the routine of the office is finished the order is given to a person who cuts a stencil or stencils depending upon the various items and their relation to various stockpiles. (Here a suggestion can be made as to the type of system to be used in the distribution of these stencils. Would the air-shoot type of distributor on the order of the department store system be a good one? What is yours?)

Upon receipt of the stencil the stockman proceeds to copy the items written on the back of the stencil, applying the brush accordingly to the

(*Please Turn to Page* 100)

On the Line — DA EDITORIAL COMMENT

Help With Your Problems

Only a college graduate with the ink on his diploma barely dry believes that he knows all the answers. Men of experience and achievement know that, daily, something new is developed that someone advances further with a major problem; that much yet is to be learned.

Advanced knowledge comes but in one way: Research. This can be accomplished individually or by collaboration. Collaboration is the best, by far. It has the advantage of many heads working on the same problem. It is also the fastest; and the faster a problem is solved the sooner it ceases to be a problem.

These thoughts, in general, motivated a new feature to be found on Page 51 in this issue—a clearing house for your industry's major problems.

The problems you send us from time to time will be submitted to readers in the form of a survey—a key tool of research. Everyone that has, or has had, that problem will be asked to answer the questions. When the answers come in, they will be arranged systematically and published as soon as possible. Then you, and all others having that problem, will be able to take the solutions offered and adapt them to your own conditions.

Heretofore, when your questions came in, the Editor and his staff did their best to give you the answers. Naturally those answers depended on how extensively the editors kept in touch with you and others in your industry. We do a lot of travelling and ask a lot of questions when we travel. But, at best, we see only a handful of our 25,000 readers.

The first problem to be surveyed is one that comes up time and time again: What to do about warehousing? We've answered it as best we know how. Now you will get a much better, more authoritative, and right up to the minute answer.

This is your Questions and Answers Department—on a big scale. Use it every month. Because the problems to be surveyed concern your business, you have handled them in one way or another. Perhaps you are satisfied; perhaps not. Even if you are, the survey may uncover a better solution.

All you need do is answer the few questions. It won't take more than a minute or two. It may help you make revolutionary changes in your organization, save money, reduce labor, speed processes, boost profits. The least it will do is make you better informed, and better satisfied with your results. We want to serve you to the best of our ability. The DA Surveys should do it to the Nth degree.

Yakkety Yak

In this issue, and last month, we published articles about how two railroads have saved a lot of time, labor and money by installing good LCL handling systems. More constructive work like that and there would be no destructive work on the truckers; in fact, it would be the truckers' turn to worry.

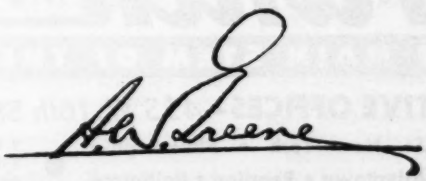
. . . By the way, not a single railroad VP or VIP wrote us a nasty letter about our July Editorial. Was silence CONSENT?

. . . If your plant has any major defense contracts, you'll want to read that article on renegotiation, on Page 24. Handle that problem right and you'll save a pile.

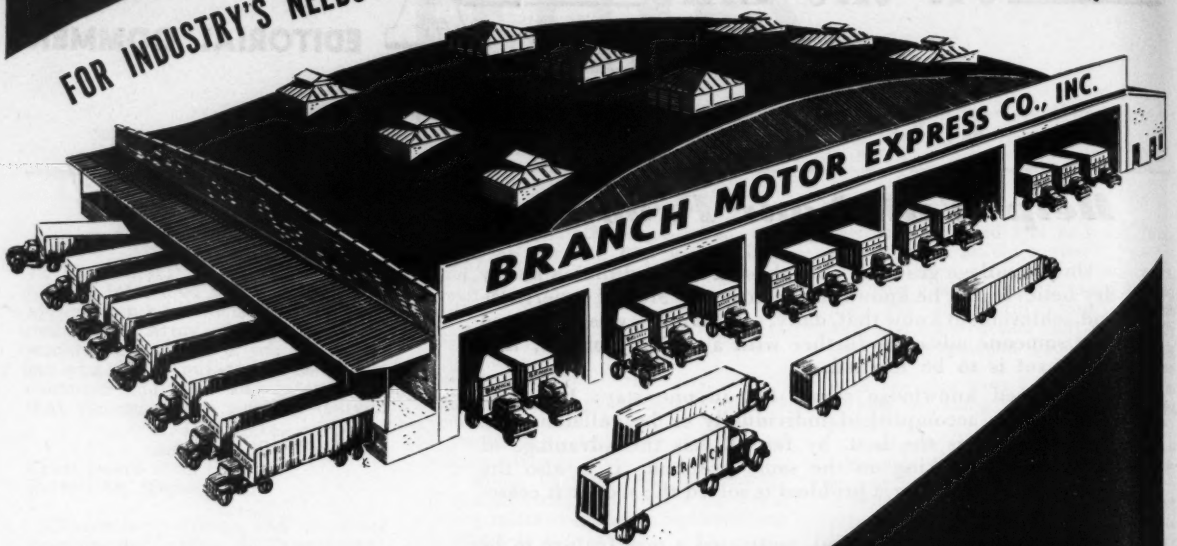
. . . Readers have asked for materials handling equipment maintenance information to pass on to their maintenance men. We've got a few articles ready; the first appears in this issue.

. . . Think you're a good driver? We'll lay our hard-earned lunch money on the line that you've got an ego-deflating surprise coming up for you and your drivers next month.

. . . Oh, Oh! John L. Lewis is stirring again. Phil's finished, now John'll give 'em L.



FOR INDUSTRY'S NEEDS TODAY AND TOMORROW . . . BRANCH EXPANDS AGAIN



A GREATER NEW TERMINAL AT Newark

WE'RE AT IT AGAIN! Last Fall brought our vast new $1,000,000 New York terminal—largest independent motor carrier terminal in New York history. Now—in thriving, throbbing Newark—we're ready with the husky mate to our Manhattan terminal . . . a gigantic 10-acre yard and structure that surpasses any independent terminal facility in the Newark area.

Now, at Newark, we can load and unload 30 trucks and trailers at once (THAT'S keeping goods MOVING)! Our parking yard can take 200 road units without strain. Located at the Pulaski Skyway, and connecting right to it, this superb location will speed delivery thousands of hours a year.

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Chuting the NEWS

Atomic Age Problems, 10 Seminars To Feature 14th Packaging Institute

Highlights of the program for the 14th Annual Forum of the Packaging Institute, Oct. 20-22, at the Hotel Commodore, New York, N. Y., will include seminars on 10 important topics.

"Packaging in the Advancing Atomic Age" has been chosen as the theme of the Forum, which will reach its high point on Wednesday, Oct. 22, with a movie of Atomic Energy in Action, following a down-to-earth analysis of industry problems encountered in wartime.

Seminar topics will include drugs and pharmaceuticals, petroleum products, foods, office equipment, printed packaging materials, shipping containers, new developments in unit packaging, maintenance, packaging gadgets and employe training.

—DA—

The recent steel strike cost more than 25 million man-days, in comparison to the 22.9 million man-days lost in all of 1951 due to work stoppages.

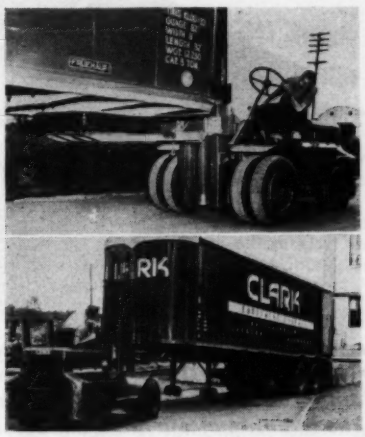
Profits Through Packaging and MH Theme of Coming Chicago Exposition

"Making Profits through Packaging and Materials Handling" will be the theme of the 7th Annual Industrial Packaging and Materials Handling Exposition, Oct. 14-16, in Chicago, sponsored by SIPMHE.

The theme will be stressed this year to top management of American business and industry because of the multiple undermining of profits through direct and indirect taxes, constantly increasing labor wage costs, and other factors that make economy a necessity.

The same theme will underlie the curriculum for the now famous "Short Course in Packaging and Materials Handling," Oct. 18-16, under the sponsorship of the College of Engineering, Department of Mechanical Engineering, University of Illinois.

—DA—



Tractors are not always readily available when needed to spot semi-trailers at loading docks. To remedy this, The Clark Equipment Co. has developed this equipment. (Above) a 6,000-lb capacity truck engages the trailer pin by means of special towing attachment device, and (below) the empty trailer is spotted.

Hyster Co. has reduced its work week from five to four days because of a shortage of parts caused by the recent steel strike.

(Please Turn to Page 14)

Coming Events

Sept. 3-13—Convocation of Engineering Societies and Associations, Centennial of Engineering, Museum of Science and Industry, Chicago, Ill.

Sept. 5-14—Washington Far East Trade Fair, Seattle, Wash.

Sept. 8-12—Seventh National Instrument Conference and Exhibit, Public Auditorium, Cleveland, Ohio.

Sept. 9-11—Association of American Railroads, Treasury Division, Swampscott, Mass.

Sept. 18—Material Handling Institute, Meeting, Cleveland Hotel, Cleveland, Ohio.

Sept. 20-24—National Freight Traffic Association, Fall Meeting, Lake Placid, N. Y.

Oct. 1-3—American Shortline Railroad Association, Annual Meeting, San Francisco, Cal.

Oct. 7-9—National Association of Shippers Advisory Boards, Meeting, St. Louis, Mo.

Oct. 9-10—Associated Warehouses, Inc., Meeting, La Salle Hotel, Chicago, Ill.

Oct. 14-16—Society of Industrial Packaging and Materials Handling Engineers, Seventh Annual Exposition, Chicago Coliseum, Chicago, Ill.

Oct. 18-24—National Metal Congress and Exposition, Philadelphia, Pa.

Oct. 20-22—Associated Traffic Clubs of America, 29th Annual Meeting, St. Paul, Minn.

Oct. 20-24—National Safety Council Exposition, Chicago, Ill.

Oct. 28-29—Fourth Biennial Materials Handling Conference, Westinghouse, Buffalo, N. Y.

Nov. 5-7—16th Annual Time and Motion Study and Management Clinic, Industrial Management Society, Sheraton Hotel, Chicago, Ill.

Nov. 20-21—National Industrial Traffic League, New York, N. Y. (Executive Council, Nov. 18-19)

Nov. 30-Dec. 5—Exposition of Power and Mechanical Engineering, New York, N. Y.

Dec. 18—Material Handling Institute, Meeting, Hotel Statler, New York, N. Y.

Jan. 19-22—1953 Plant Maintenance Show, Public Auditorium, Cleveland, Ohio.

Feb. 21—National Food Brokers Association, 48th Annual Convention, Chicago, Ill.

Feb. 25-28—National Vehicle Show and Fleet Maintenance Exposition, New York.

April 20-23—Frozen Food Exposition, Grand Central Palace, New York, N. Y.

April 20-23—American Management Association, Packaging Conference and Exposition, Navy Pier, Chicago, Ill.

May 18-23—Materials Handling Exposition, Convention Hall, Philadelphia, Pa.

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President, The American Tobacco Co.

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Nearly seven million employees of industry are "providing for their personal security and at the same time helping in the building of our national defenses."

- they are the men and women who availed themselves of the opportunity referred to by Mr. Hahn—the opportunity to enroll in the Payroll Savings Plan for the systematic purchase of U.S. Defense Bonds.
- they represent a high percentage of their companies' employees—in plant after plant, the averages are climbing to 60%, 70%, 80%—even higher.
- their investment in Defense Bonds—and America—add up to $140 million per month.
- they constitute a large block of the men and women who on December 31, 1951, held Series E Bonds amounting to $34,727,000,000—$4.8 billions more than the cash value of Series E's outstanding in August, 1945.

Not far from you is a State Director of the Savings Bond Division. He will be glad to tell you how easy it is to give your employees a Payroll Savings Plan. Or, if you already offer the Plan to your people, he will show you how to conduct a simple person-to-person canvass of your plant—a canvass intended to do only one thing—to put a Payroll Savings Application Blank in the hands of every man and woman on your payroll. Your employees will do the rest.

Phone or write to Savings Bond Division, U.S. Treasury Department, Suite 700, Washington Building, Washington, D. C.

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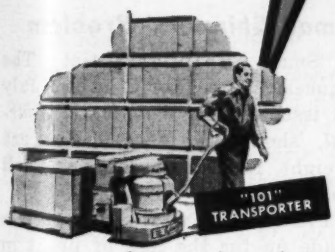
Let the Figures Prove How Much More You Save With "Keyed-For-the-Job" Automatic Trucks

There's only one RIGHT truck for each material handling job... and Automatic has the experience and know how that saves you money with trucks "Keyed-For-the-Job"



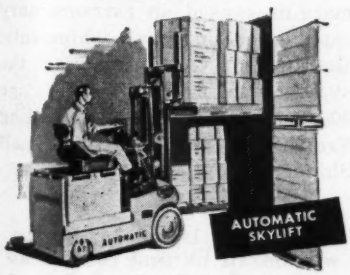
Moves tons of your product at the touch of a button . . . raise load to moving height in seconds . . . works all day for as little as pennies.

BEFORE you buy *any* material handling truck, be sure it's "keyed-for-the-job" in your plant. A truck which is either too big, too small, or inadequate for efficiently handling *your* particular product, may not save you enough material handling money to pay its cost within a reasonable time. Or those savings may be delayed longer.

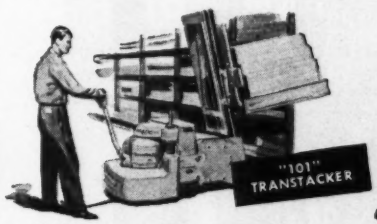
The way to be sure you get money-saving performance that lets you write off its investment quickly, is to take a look at how many *more* electric trucks Automatic has to offer . . . how many *more* ingenious devices it has to fit whatever "tough" handling problem you have.

From the smallest to the largest truck . . . from the lightest to the heaviest products to be moved, lifted or tiered, expect the *right* truck from Automatic...an electric truck *"keyed-for-your-job,"* and *your job alone!*

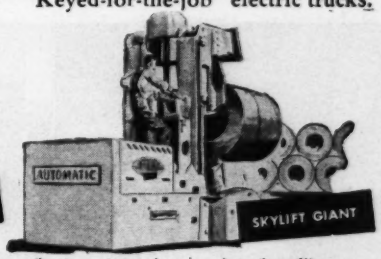
That is the secret of really cutting material handling costs. Put Automatic electric trucks to work in your plant, and let the figures prove that Automatic Trucks cost so little to operate, so little to maintain. Mail coupon for facts on Automatic "Keyed-for-the-job" electric trucks.



Lifts, moves and tiers material 132 inches from floor to top of fork. Drives and operates like an automobile—speeds up operation—reduces operator fatigue.



Ability to maneuver in crowded quarters makes this model ideal for operation in narrow aisles, and in areas where floor or elevator capacities are limited.



Designed for heavy duty handling requirements, the Skylift Giant is available in capacities ranging from 20,000 pounds to 80,000 pounds.

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Chuting the NEWS

(Continued from Page 11)

James K. Knudson Addresses 4th Movers' Assembly; Annual Conference Attracts Record Attendance

The 4th Annual Meeting of the Movers' Conference of America and its 54 Affiliated Movers Associations in Chicago last month was a record production in every sense of the word.

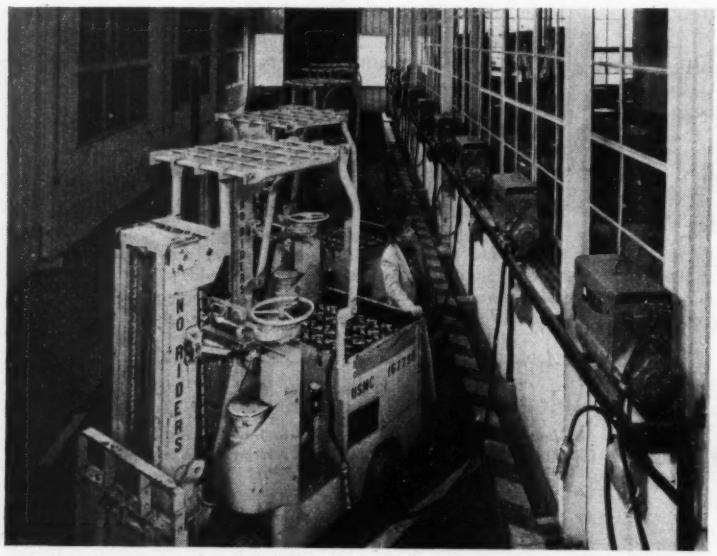
Attendance topped that of any previous session, floor participation in discussion of topics of the day was the most enthusiastic to date, feature and guest speakers stirred the group with inspiring and informative talks, the general program was excellent, and entertainment was tops.

Reciprocity between states, claim prevention, government traffic, reduced government rates, accounts and cost findings, commodity description, tax problems, insurance, and leasing were among subjects discussed by speakers and in panel sessions.

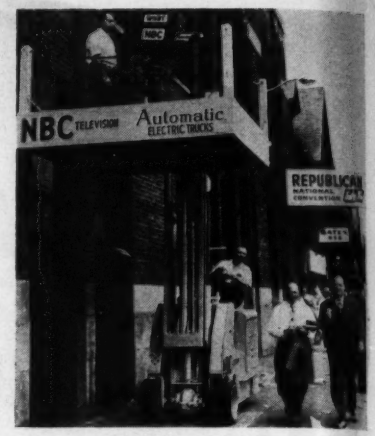
Speaking at the first luncheon session Hon. James K. Knudson, DTA administrator, outlined effects of the recent steel strike, painted a general picture of transportation as it affects and is affected by the government, and touched on highway improvements, problems brought on by rail and state restrictions, and other topics of current interest.

Hon. Richard F. Mitchell, ICC commissioner, also spoke, taking as his subject, "Some Problems that Confront the Household Mover."

Russell E. Garrett, of John F. Ivory, Detroit, Mich., was elected vice president to succeed J. L. Wilkinson, of Charlotte, N. C., deceased. Two new directors, Virgil E. Freeman, of North American Van Lines, Fort Wayne, Ind., and R. H. Buresh, of Kinwood Transfer Co., Cedar Rapids, Ia., were elected. Other officers and directors were re-elected.



"Just drive 'er in and hook 'er up" are the instructions given to fork-truck drivers looking for a battery re-charge at the Islais Creek Area, Marine Corps Depot of Supplies, San Francisco. Eleven General Electric portable battery chargers do the maintenance job.



This NBC television cameraman who covered outdoor scenes at the recent national political conventions, got a lift in his work from the Automatic skylift electric industrial truck. Special equipment allowed the platform to be raised 15 ft for crowd shots and distant views.

Small Shippers' Problem

"Small Shippers Get The Squeeze," an editorial in the July 31 issue of *The Wall Street Journal*, shows the effect of recent freight rate increases on small shipments.

Previously, the freight carriers made up for the loss of profit in hauling small shipments by boosting the profit on larger shipments. High costs and shrinking profit margins caused an extraordinary rate boost on small shipments. DISTRIBUTION AGE explained the situation in its July issue (Page 20) with an article, "Spiralling Freight Rates Focus on Small Shipper."

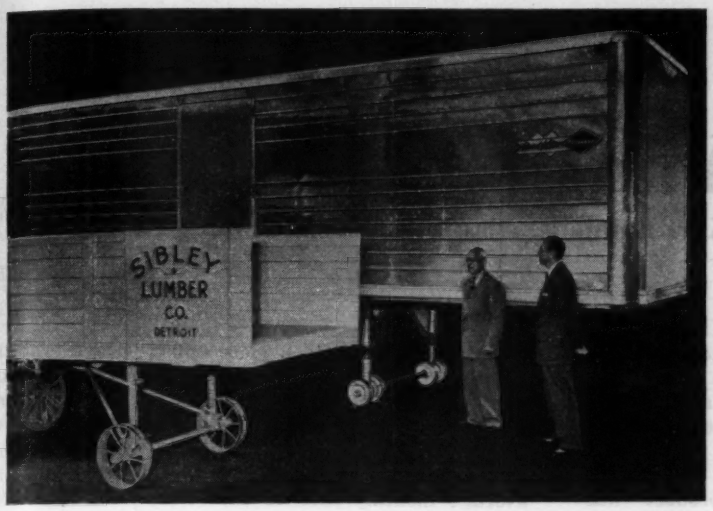
—DA—

The Rock Island Lines soon will install its first continuous type steel rails—in a five-mi strip of 1500-ft sections — to reduce maintenance costs.

—DA—

Study Shipping Subsidies

President Truman has asked the Secretaries of Commerce and Treasury to report to him by Oct. 15 with recommendations on whether present tax benefits for the shipping industry could be stopped and, if so, whether it would mean an increase in direct subsidy payments.



Contrasting the old with the new, C. L. Schneider, vice president in charge of sales, Fruehauf Trailer Co., and F. M. Reid (left) vice president, director of engineering, examine the first Fruehauf trailer ever made with the latest, smooth-panel aluminum Road Star model.

Kudos from Knudson

Defense Transport Administrator Knudson has commended railroads and motor carriers of the Pacific Coast area for their cooperation in meeting the transportation problems brought on by the earthquake of July 21, which caused extensive damage to rail and highway facilities.

—DA—

Brooklyn College will offer an eight week course in all phases of traffic management, starting Oct. 16. Included are sessions in warehouse location and handling equipment.

—DA—

DPA ASKS $300 Million Rail Investment Boost

DPA has called upon the nation's railroads for a boost of $300 million in capital investment in terminal and road facilities to be completed by Jan. 1, 1954.

The anticipated $300 million boost over the 1950 investment will be alloted to new diesel servicing facilities, spur tracks, passing tracks and extensions, centralized traffic control systems, classification yards, repair shops, freight stations and terminals and dock terminal facilities.

Warehouse Steel Down 60%

Small businesses dependent on steel warehouses for their raw materials will be hard-pressed through the rest of 1952 and the first quarter of 1953, according to Walter S. Doxsey, of ASWH.

Today, warehouse supplies are only 35 to 40 per cent of normal, Doxsey said, citing his association's inventory figures which account for about 60 per cent of the steel warehouse industry.

—DA—

NPA has lifted its ban on warehouse shipments of steel to large civilian producers.

—DA—

Transparent Box Car

A transparent box car, constructed by the Union Pacific Railroad, will tour the nation this year as another move toward reducing freight damage.

One side of the car will be fitted with plexiglas so that the line's yard and train service forces can watch the effect of switching and other impacts on lading in box cars. Another purpose of the window will be to check the efficiency of various types of loading methods and bracing for assorted items.

(*Please Turn to Page* 44)

MEN
IN THE NEWS

Materials Handling

Hugh G. Seeley—appointed sales-service supervisor by Baker-Raulang Co., Cleveland, Ohio.

R. W. Lahey—retired as manager of American Cyanamid Co.'s packaging and materials handling department.

Paul D. Oesterle—new sales manager, piping department, Dravo Corp. Machinery Division, Pittsburgh, Pa.

Dan Daily (left) and **Dick Lewis** have been named district representatives by the Frank G. Hough Co., Libertyville, Ill. Daily will maintain headquarters in Minneapolis, Minn., and Lewis in Kansas City, Mo.

G. Cornwall Spencer — appointed press director for the seventh annual Industrial Packaging and Materials Handling Exposition in October.

W. G. Lanterman—elected director of Philadelphia Chapter, AMHS.

Don C. Hosler—of Hyster Co., elected secretary-treasurer of the Portland Control of the Controller's Institute.

Packing & Packaging

R. F. Norcott—promoted to sales manager in Milwaukee by Chase Bag Co., Chicago, Ill. **George K. Whyte**—new manager of the Chase factory and sales office in St. Louis, Ill.

Edward K. Mullin has been appointed sales manager of the boxcar division of Robert Gair Co., New York, N. Y.

James M. Gager, Jr.—added to sales force of Kraft Bag Corp., with offices in Chattanooga, Tenn.

Traffic

C. J. Wilson—elected president, Industrial Traffic Managers Assn., Baltimore, Md. Others officers—**R. M. Pilson**, vice-president; **C. Gilbert Kappel**, secretary-treasurer.

(*Please Turn to Page* 42)

Washington DA

By Karl Rannells, *Chilton Washington News Bureau*

Economic Outlook Production and distribution schedules were seriously disrupted at the time but the steel strike has had the effect of firming up the outlook for both over the months to come. Some 20,000,000 tons of steel production—multiplied with each stage of distribution until it reaches the consumer as an end product—was lost. It must be made up. This means the steel industry must operate at top capacity for from one to two years.

Effect of the strike was to delay the peak of defense production for about six months. This means it won't be reached until in 1953 and that the high output will continue into 1954.

The saturation point for consumer durables and civilian hard goods has been delayed accordingly. Mindful of bad guesses in the past, government officials are reluctant to forecast a date. It will be longer for some, such as motor vehicles and machinery parts, but shorter for others such as major appliances. But they do expect a high demand for transportation, warehousing, and other distribution facilities to continue through 1953.

Warehouse Building Those planning to build a new warehouse, terminal, or other industrial facility, and who want government help—maybe a loan, perhaps a tax certificate, or only priority aid—should keep in mind the new government standards concerning sites. It wants all new industrial plants scattered as much as possible.

This is to keep damages down in case of an enemy bombing attack. Government dispersal standards will especially be applied against warehousing and storage, not alone because they are easier located outside city areas but also because of their importance. Ten miles from heavy industrial areas is the currently approved standard.

Until first of the year, much structural steel for warehouses and terminals may have to be diverted to "critically important" industrial projects by order of the National Production Authority. Exception would be if the builder could justify his project as highly necessary to a critical defense project.

'Copter Crossing Defense Department is enthused over the recent Atlantic crossing by the Army's two big helicopters. But this won't make any change in military handling of airborne cargo. Main purpose of the crossing was to prove it could be done. Officials still see the role of 'copters in the future as being just what it is now — a pick-up and delivery service for standard carriers from hard-to-reach points.

Freighting Facilities Much more will be heard over the coming months about freight cars as DTA tries to pump new life into the sagging car building program. Under the program started two years ago, freight cars should have been ordered, built, and installed at an average monthly rate of 10,000 units. This meant that 240,000 new freight cars should have been put into use by now. Railroad ownership has only increased by about one-half that figure.

This worries DTA whose job is to see that there is plenty of freight car capacity—not only to handle current needs but to handle full-scale mobilization, if necessary. There is no shortage now. But DTA says there would be if the freight load increased very much.

The railroads say they can't get deliveries and blame it on materials shortages. But DTA points out that the railroads are ordering new stock at less than the retirement rate and that the carbuilding order backlog has been dropping steadily. Officials say that the railroads got freight rate increases on the promise that they would use some of the extra money for new equipment. They add that they expect the railroads to come through with enough new orders to keep production at the 11,000 a month level.

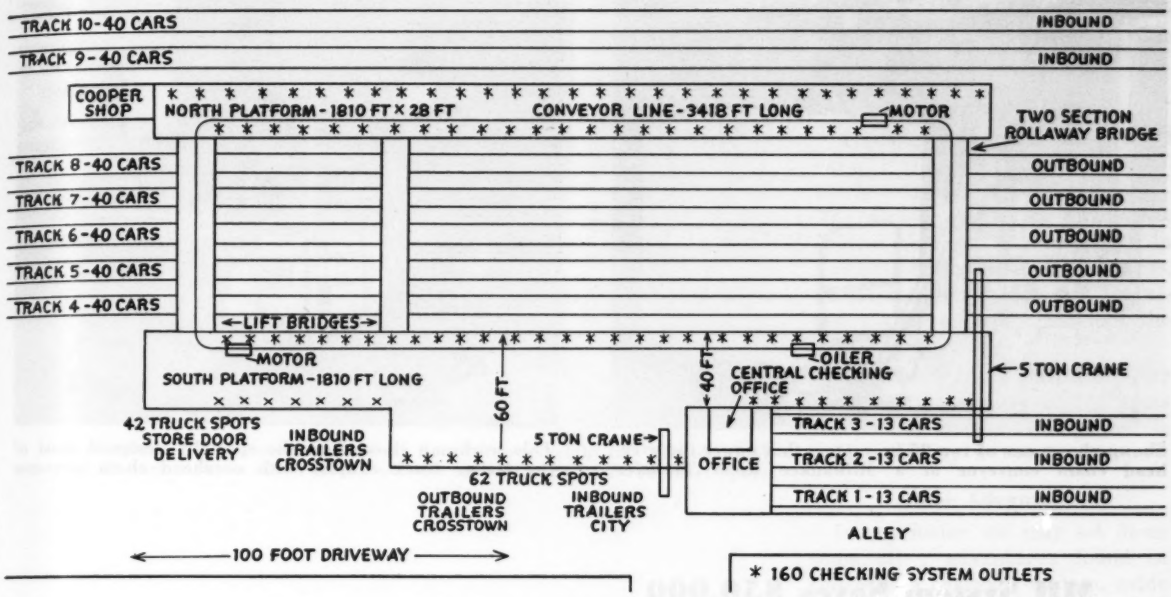
Foreign Demand American materials handling equipment is slowly growing in favor overseas, particularly among nations taking part in the Marshall Plan (now in the hands of Mutual Security Agency). Most orders are relatively small but the cumulative total counts up. During a recent 30-day period, for example, MSA placed, or approved, purchase orders for four forklifts and 17 tons of wire rope for Formosa along with 32 tons of manila rope; more than 700,000 ft of wire rope for the port at Taiwan; and 14 bull graders and 14 tractor winches for Thailand.

Lake Ore Shipment Considerable change is coming up in handling of ore shipping from mines in the Great Lakes area. With the backing of DTA, plans are on foot to increase the amount of all-rail shipping inasmuch as water shipments are dependent upon length of the ice-free season on the lakes.

All-rail movement from the head of the lakes is relatively new, such tonnage averaging only about 1,500,000 tons annually prior to 1950. Last year, nearly 8,000,000 tons went out entirely by rail. The plan to expand all-rail movement will require installation of additional handling equipment, including thawing facilities so that shipping can begin earlier, end later.

(*Please Turn to Page* 74)

The overhead chain conveyor makes a full circuit, accessible to freight cars, trailer trucks and light trucks



Milwaukee Road's MH System SAVES $50,000

First year's saving covers cost of installation on this .64-mile overhead chain conveyor as average ton-per-man-day jumps to 4.13

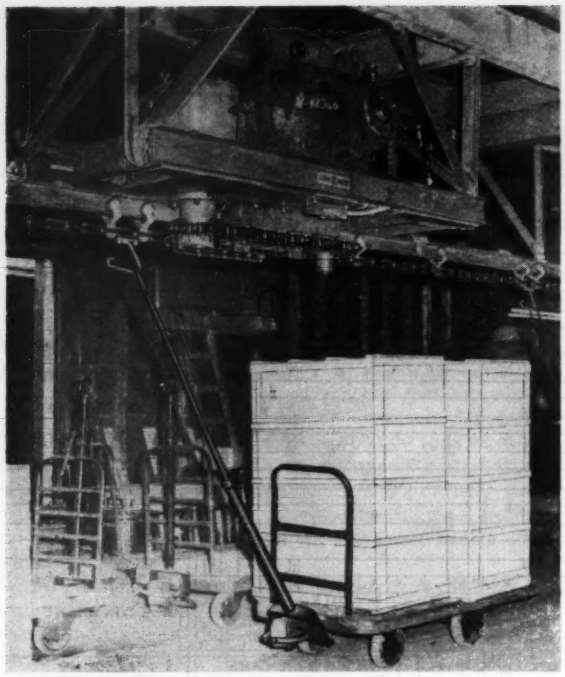
By Edwin J. Knudsen

THE overhead conveyor system installed at the Galewood Transfer freight house of the C. M. & St. P. R.R. has shown a $50,000 saving in operations costs in its first year of use. This saving covers the cost of the installation of the equipment.

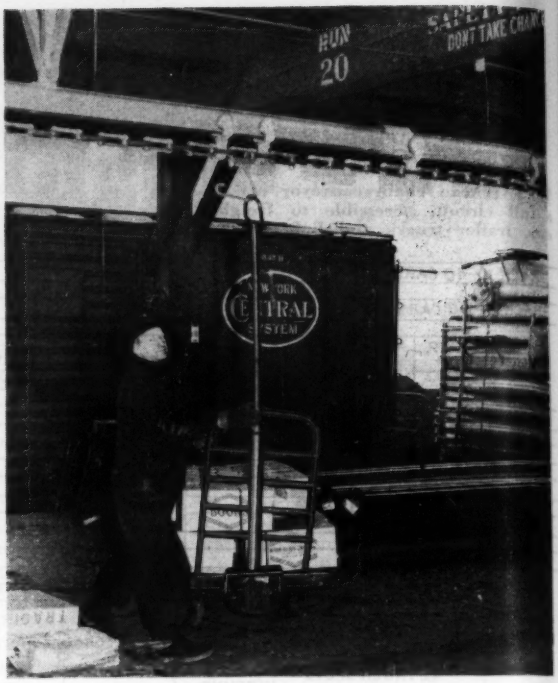
Some conception of the savings in payroll costs alone can be gleaned from the fact that in 1947 the average per ton per man day at Galewood was 3.52. After the installation of the conveyor system in 1950 the output has reached a high of 4.13. Galewood officials have estimated that the average worker has increased his output by one-half ton per day as a result of the new method.

3,148-ft Line

With the co-operation of Link Belt Co. engineers, an endless overhead chain conveyor system was constructed which runs clockwise over two main platforms, 1,810 ft



Shown above, one of two 25 hp motors that power the overhead chain conveyor at a Milwaukee Road Transfer



This workman shows how the specially designed mast of the trailer truck couples with overhead chain conveyor

. . . MH System Saves $50,000

(Continued from Preceding Page)

long. The north platform is 28 ft wide, the south, 40 to 60 ft wide. The total length of the conveyor line is 3,418 ft—the longest in any railroad freight house in the nation.

Connected Platforms

The platforms are connected at the east end by a two-section roll-away bridge, and at the west by a new lift-bridge. These bridges make it possible for the conveyor line to cross five tracks.

Eight ft above the floor of the platform an endless 4 in. drop-forged chain runs under a 4 in. I-beam rail by means of roller-bearing wheels between the flanges of the rail.

Along the chain, at 12-ft intervals, towing hooks have been installed which carry the four-wheeled trucks from trailers or cars. The device which facilitates the hooking and unhooking of these trucks by work crews is an ingenious hitching mast perfected by Milwaukee road officials in their own shops. It consists of a mast, five ft long, attached to the front end of the platform truck.

This mast can be extended another 3 ft 6 in. to enable the operator to affix the half-round eye welded to the other end, to the towing hook on the conveyor chain. A spring within the mast minimizes any jerking that may occur at the start of the truck's journey.

Use Platform Trucks

Merchandise is unloaded from cars or trailers onto platform trucks. These trucks are numbered and their masts are attached to the towing hooks for the trip to outgoing cars.

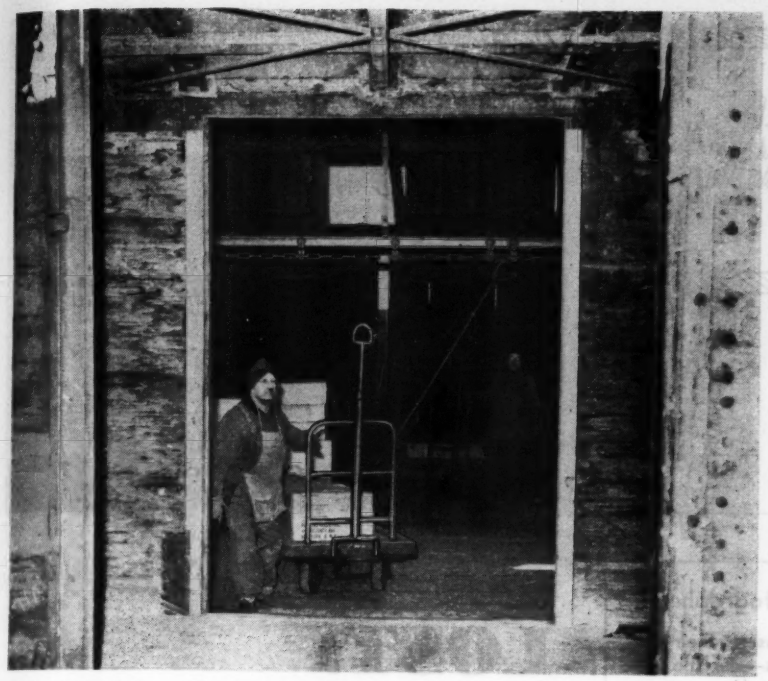
When the loaded trucks approach the car which has its corresponding number, watchful crews unhitch the mast from the towing hook and draw the truck to one side. They immediately place an empty truck on the unoccupied hook. Stowers are then free to load the cars.

The conveyor is powered by two Westinghouse 25 hp. three-speed motors and two caterpillar type drive units. They were installed at opposite corners of the circuit to distribute the motor load equaly.

The low and medium speeds of 90 and 135 fpm are used at the start only. The former high of 180 fpm was recently stepped up to 190 fpm without any notice from working crews. This is the highest speed attained in conveyors on record, according to company officers.

900 Trucks Per Hour

Capacity loading was 900 trucks per hr at the 180 fpm figure, or 19 min for the round trip. A stop switch of the train cord type has



A "caller" takes a trailer load over the dock board into a freight car. The terminal can spot 40 cars each on seven tracks and 13 cars on each of three short spurs

Recipe for Rail Terminal LCL Freight Handling

It would seem that a list of "ingredients" for anything so vast as the nation's longest freight house conveyor might form a complicated mass of parts, equipment, and accessories. The Milwaukee recipe is a model of simplicity, which probably, in a large part, accounts for the line's efficiency.

1 lift bridge	1 2-section roll-away bridge
1 endless 4-in. drop forge chain	1 4-in. I-beam railing
285 towing hooks	1220 4-wheel platform trucks
2 25 hp. 3-speed motors	1220 telescopic hitching masts
75 emergency switches (cord type)	2 caterpillar type drive units
	1 2-way speaker system

been placed every 46 ft to effect sudden stops in the event of emergencies.

Galewood recently installed a two-way talk-back speaker system between callers and checkers that has resulted in further economies. Formerly a checker was required to work in each car with a caller and unloading crew. This required the checker's frequent and time-consuming trip to the office to turn in old waybills and to get more for other cars.

Under the new system of communication, checkers working at desks in the office, can contact callers in the various cars. Each checker, his bills laid before him, can now direct callers through a portable speaker to proceed to another car as soon as he finishes with one. Thus efficiency has been increased and operations have been speeded up.

The outbound tonnage handled at Galewood ranges from 1,000 to 2,000 tons a day. There are 1,220 four-wheeled trucks on call to feed the conveyor line. Towing tractors and three fork trucks are used to move the larger shipments.

Can Spot 319 Cars

Trackage is provided to spot 319 cars. Four of these tracks lay directly adjacent to the platforms. The cars on the inner tracks are spotted so that the doors are in line with one another. Dock boards, placed between these doorways, allow a flow of traffic through the cars.

The trailer truck platform to the south has a capacity of 142 spots for loading and unloading, and is approached by a 100-ft driveway.

Other Advantages

In conclusion we may set down some other advantages found in Galewood's conveyor system, aside from its economy features:

(1) It speeds up freight movements. Should a trailer truck arrive within an hour or two of closing time, its load can now be dispached to a waiting car and sent on its way that night. Formerly, the load was stacked into a freight house and kept until the next day;

(2) It increased freight tonnage handled by 10 per cent;

(3) It reduced congestion on the loading platforms. The new system makes for ample aisle space for the movement of platform trucks both to and from cars.

Improvements Still Coming

In a materials handling installation such as that at Galewood, opportunities for improvements are constantly cropping up. Cases in point are the lengthening and speeding up of the conveyor line, the installation of the new system of communication, etc.

Milwaukee officials are meeting these challenges by applying new methods or adding new equipment from time to time. And this progressiveness has paid off in reaching new plateaus of efficiency. •

Left: Comparison of styles—plain, fancy, small, careless —leaves little doubt as to which box will get there first

Below: Variety of packages, containers and loose pieces represents several days' accumulation of unmarked freight

Your Carrier Is NOT a Cryptographer

In order to expedite shipments, insure their delivery and avoid lost shipping dollars—ask the following questions of your present marking set-up:

1. Is marking sufficiently clear to assure delivery?
2. Are all old marks removed?
3. Are all new markings legible?
4. Have new markings been applied in such a manner as to withstand rough treatment or inclement weather?
5. Are markings properly located?
6. Have all special markings required by carriers or regulations for dangerous or fragile, or for ease of handling, been applied?
7. Does marking indicate that container is one of a small group to be shipped together if such is the case?

LOST: $30 Million In

By William A. Barbour

CLAIM payments for freight loss topped $120 million in this country last year. A substantial portion of that amount can be traced directly to inadequate package marking.

The transportation industry picks up, according to trade estimates, a yearly tab of close to $30 million for unclaimed freight, much of which is attributed to loss in transit because of improper marking; *i.e.*, illegible hand and stencil marking, insufficient or erroneous addressing, use of non-lasting or easily defaceable materials, or faulty application of tags and labels.

Class one railroads payed out some $12 million as their share of the unclaimed freight bill last year. Add to this proportionate losses cited by the trucking industry and water and air carriers, plus several probable millions in unreported losses—and you realize a staggering price for basic carelessness.

There is no mystery as to the whereabouts of this lost freight. Much of it lies forgotten in the "Lost Shipment Warehouses," "On Hand Sections," and "No Mark Bureaus" of common carriers.

Dual Responsibility

Who is to blame for this loss, and what can be done to remedy the situation? In Old Army style the shipper blames the carrier, while the carrier points a finger of guilt at the shipper. Actually, shipper and carrier alike must share the responsibility. The shipper is principally obligated for his failure to properly mark the package—the carrier for accepting the improperly marked shipment.

While it is true that shippers salvage a great majority of their lost dollars via carrier claim payments, there can be no mistake about who pays the ultimate "charges" for marking negligence. Only the naive believe that claim payments are not reflected in higher freight and insurance rates.

And, even in the case of 100 per cent claim adjustments, the shipper cannot recall priceless good will which literally flew out the shipping room door on the wings of a poorly marked package. It is the exception rather than the rule when a carrier, or an industrial firm, can report: "During the past year we did not lose or antagonize a single customer through delivery delay or failure due to loss or miscarriage."

The one bright aspect of the otherwise gloomy picture lies in the

Photograph shows unclaimed shipments at carrier's "On Hand Bureau." Note wide variety of marking methods

Where to Look

If in doubt concerning marking requirements, consult one or more of the following sources:

Rail Freight Classification No. 6
Railway Express Classification No. 33
Air Freight Regulations
U. S. Army TM 38-230
Parcel Post Regulations
Motors Freight Classification No. 8
U. S. Govt. Pamphlet, "Preparing Shipments for Export"

Unclaimed Freight

Carelessness at the marking table cited as principal factor leading to lost millions via unclaimed freight

fact that most of the shortcomings can be corrected with comparatively minor outlays of cash and effort. The groundwork for a program of prevention rather than reclamation of lost shipping dollars can be accomplished right at the source of trouble—at the individual firm's marking table; in the shipping or order filling departments.

Although carrier regulations and government bulletins (see box) employ different word selection in telling their stories, the basic message in each is one and the same—*All Packages Must Be Plainly, Legibly and Durably Marked.*

Important excerpts from these trade directives, all designed to speed departure from the American freight scene of the bugaboo lost shipping dollar, are listed below:

Rail Freight: Each package, bundle or loose piece of freight must be stenciled, or otherwise plainly and durably marked, showing the name of only one consignee and one station, town or city and state. Addition of street address will expedite delivery. When consigned "To Order" the shipment must be marked with identifying symbol or number, which must also appear on the shipping order and bill of lading. Fragile articles must be appropriately marked.

Railway Express: Each package must be plainly, legibly and durably marked. Shipments wrapped in paper or fibre containers must be marked with pen, brush or stencil, waterproof crayon, or by label securely attached and coated with silicate.

Air Express: Mark as for regular express shipments, but also mark boldly and clearly "Air Express." The code word AIRYX may be used.

Air Freight: Each piece must be durably and legibly marked with name of consignor and consignee. Magnetic material will be carried only when so marked.

Motor Freight: Each package and piece of each shipment must be plainly and durably marked, stenciled or tagged by shipper, showing the name of only one consignee and only one address at one destination.

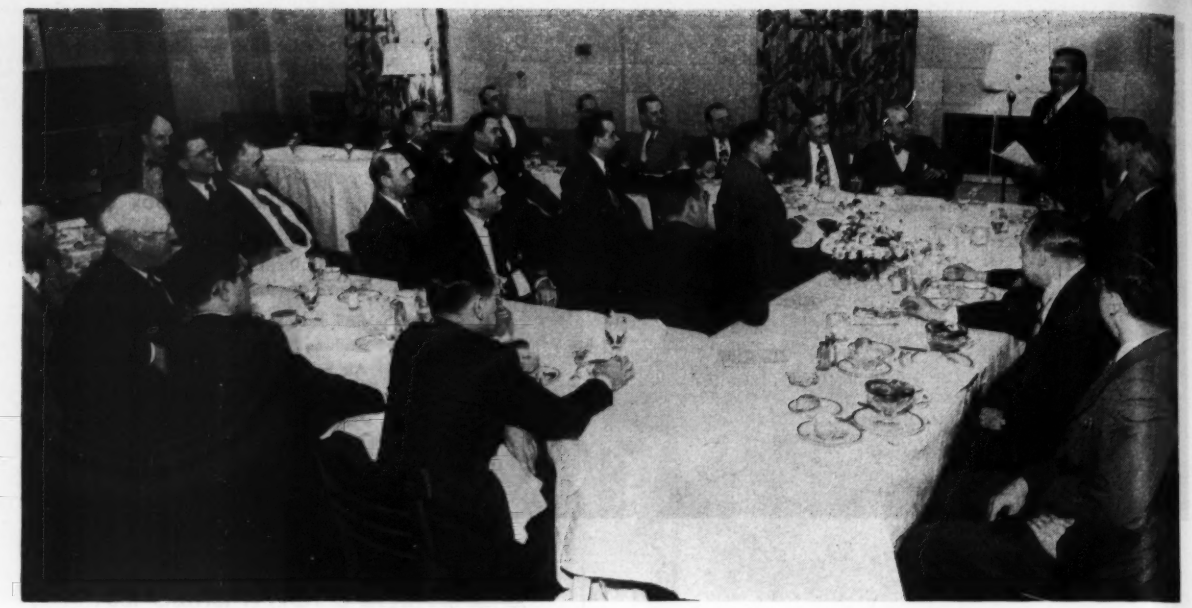
Parcel Post: Shipper's name in upper left, customer's name and address lower center or right. Parcels may be sealed if marked, "Postmaster: Contents Merchandise. This parcel may be opened if postal inspection is necessary."

Export: Shipment must be marked legibly and durably for quick, easy identification at foreign port. Marking should include name and address of consignor and consignee, gross weight, port mark and case or serial number. Serial numbers are most important, since native workers in many parts of the world are wholly unable to read, but are trained to recognize certain marks, numbers and letters.

Overmarking

There exists a danger in overmarking a package or shipment, especially in regard to export consignment. The International Long-

(*Please Turn to Page* 58)



Shown above are guests at the second of two Cleveland Conferences on Renegotiations. AUTOMOTIVE INDUSTRIES arranged 14 such conferences.

By James R. Custer

Avoid Renegotiation

A well written report, presented in a spirit of good salesmanship, may spell the difference between a favorable or unfavorable Renegotiations Board decision

Author Organizes DCR Conferences

Mr. Custer, distinguished editor of AUTOMOTIVE INDUSTRIES, recently completed a series of 14 management conferences in 12 industrial centers on the vital subject of Defense Contract Renegotiation. The conferences were sponsored by the editorial department of AI.

The response was staggering—475 officials and key executives representing 262 manufacturers and other leading commercial organizations attended the conferences. Noting the almost universal interest in the subject, DISTRIBUTION AGE asked Mr. Custer to prepare something on renegotiation as a special service for DA readers. He graciously responded with the article presented on these pages.

RENEGOTIATION can become a nightmare if left to take its course, but such a situation can be avoided by adopting certain protective measures, which will be outlined later in this article.

Already thousands of companies with defense contracts have completed the first steps under the Renegotiation Act of 1951 by filing preliminary reports with the Renegotiation Board in Washington. From these reports the Board will determine what companies are subject to renegotiation, which is fixed by two conditions—a company must have produced more than $250,000 worth of defense goods under renegotiable contracts during 1951, and in the opinion of the Board, its profits on this business have been excessive.

First report to be filed is form RB-1. It is required of all con-

Government Agencies Whose Contracts Are Renegotiable

Depts. of Defense, Army, Navy, Air Force
Department of Commerce
General Services Admin.
Atomic Energy Commission
Reconstruction Finance Corp.
Canal Zone Government
Panama Canal Company
Housing and Home Finance Agency
Federal Civil Defense Admin.
National Advisory Committee for Aeronautics
Tennessee Valley Authority
United States Coast Guard
Defense Materials Procurement Agency
Bureau of Mines
Geological Survey
Bonneville Power Admin.
Bureau of Reclamation

Pitfalls

tractors and their subcontractors within 90 days after the end of their fiscal year and calls for a statement of their total income from renegotiable defense contracts with any of 20 Federal Government departments and agencies. Another 60 days is allowed for the filing of form RB-1B, in which a company reports in detail on its income from renegotiable and non-renegotiable business. Then the Renegotiation Board is allowed one year in which to notify a company it is subject to renegotiation and another two years to complete it.

Exempt Contracts

Government agencies whose defense contracts are renegotiable are listed elsewhere in this article. (See box item at top of this page.) Some defense contracts are not renegotiable — those exempted (mandatory) by the Renegotiation Act and those which the Renegotiation Board exempt under its regulations. On the mandatory exemption list are a large number of agricultural commodities and raw materials, such as products of mine, oil, and gas well, also timber, which have not been processed beyond the first state for industrial use.

Contracts with public utilities and common carriers also are exempt. There is a partial mandatory exemption of subcontracts for new durable productive equipment. Examples of permissive exemptions are prime contracts and subcontracts performed outside of the United States, those of a secret nature, where it is not administratively feasible to segregate profits, and stock items under certain conditions.

The Board estimates that about 27,000 cases will be filed with it this year, including approximately 15,000 cases involving renegotiable sales of not more than $250,000. Of the remaining 12,000 cases, those that are attributed to have excessive profits will be referred to the regional boards in Chicago, New York, Washington. Detroit, Los Angeles, and Boston.

Profit Classification

Cases referred to the regional boards are classified into two groups—Class A and Class B. Class A consists of those cases that on the face of the filing, their net profits from renegotiable business exceed $400,000. Class B are those with net profits of $400,000 and less. Regional boards have been given final authority to close any Class B cases in which they can reach agreements with the contractors.

It should be remembered that the present renegotiation law is a continuation of a similar Government procedure set up as an emergency measure in World War II (1943), which ceased to apply to procurement made after Dec. 31, 1945. For that period the Government reports companies were required to refund approximately $11 billion.

Since then renegotiation has taken on a permanent status and like taxes and controls, once established, it is difficult to get rid of them. Renegotiation is really just another Government procedure superimposed on the tax laws to control prices and profits.

Congress reinstated renegotiation in May, 1948, and a year later broadened and extended its scope. The Renegotiation Act of 1951 followed in March, 1951.

Prove Efficient Profits

After a contractor receives notice that he is subject to renegotiation, his final determination depends much on what protective measures he has taken to enable him to present an impressive array of facts to the Board. Never must he admit excessive profits, but rather he should prove that he has earned efficient profits. Some of the protective measures are:

1. A thorough analysis of sales, with careful attention directed to the advantages which can be secured from the application of special provisions in the Act such as, mandatory exemptions, partial mandatory exemptions for durable productive equipment, and permissive exemptions.

2. Thorough analysis of all items of cost in order to justify them in renegotiation proceedings. Maintain cost studies of national defense work.

3. Preparation of adequate renegotiation files and the assembling of the data most beneficial to your company.

4. Formulation of a pricing policy for regular price reductions.

5. Analysis of the base period for cost trends as a guide for the current year. Presentation of facts on the position of your company within the industry.

Each individual contractor is judged on the basis of the merits of his own particular case. There is no industry base, formula or standard by which a company is measured. The Board recognizes that the factors for one company will not apply to the next one that may appear before them. Renegotiation proceedings must be tailored to fit each company.

(*Please Turn to Page* 60)

What Future for General Merchandise Warehousing?

Despite production boom, public storage facilities are not used today in same ratio as 10 years ago

By John H. Frederick
Transportation Consultant
Distribution Age

INFORMATION recently compiled by the Storage and Warehousing Division of the Defense Transport Administration raises the question—What is to be the future of the general merchandise warehouseman?

H. K. Osgood, director of this division of DTA, discussed some of the aspects of the problem at the annual convention of the American Warehousemen's Association in New Orleans last May. The matter needs further attention by the warehousemen of the country, by industrial traffic managers and by industry in general.

DTA has made a survey of public merchandise warehouses and finds that the present amount of space for general storage and use in distribution is about the same as that available in 1941 or approximately 97.5 million sq ft.

Just Public Storage

It should be noted that this figure, today, does not include space in commercial warehouses which has been leased out to others — it just includes space actually operated by warehousemen for public use.

There is no knowing how much of the space which the Bureau of the Census included as "general merchandise space" in 1941 was actually leased to others and not under the control of warehousemen for public storage; but space leasing was not as prevalent then as it is under current conditions.

The amount of general merchandise space, available for industry to use in various ways as it fitted into different methods of distribution, has not kept pace with the economic growth of the country. While production cannot be directly related to storage requirements, since a higher production rate may be counterbalanced by a higher consumption rate, still, total national inventories on hand should show a direct relationship to total storage. This is so because storage represents stocks at rest and the storage trend should be the same as the inventory trend.

Flexibility . . .
. . . Financing
The two strong selling points

Even though inventory figures are expressed in terms of dollars, the value of the dollar, expressed in terms of commodities, has declined since 1941; an article costing $175 now and $100 in 1941 takes up the same storage space.

The Department of Commerce and the Federal Reserve System periodically report the book dollar value of total inventories on hand in the United States. In 1941, inventory was 29 billion dollars and, at that time, the cost of living index published by the Department of Labor was 105.2. The inventory figure in 1952 is 70 billion dollars with a cost of living index of 187.9.

Making an adjustment for the depreciated dollar value, shows the actual volume of materials on hand in inventories to now be 35 per cent higher than it was in 1941. But the present volume of materials on hand in commercial warehouses (74 per cent occupancy in 1941 as compared to 85 per cent in 1952) represents an increase of only 15 per cent of such inventories.

Cites 1941 Figures

In his talk to the AWA, H. K. Osgood reduced the commercial warehouse side of the inventory picture to tons as follows: "On the assumption that it takes an average of 16 sq ft of gross warehouse space per ton of material

(*Please Turn to Page* 82)

A typical belt repair kit includes emery cloth, sharpeners, patching rubber, knives, cement, fasteners, cleaning material, pliers, rollers, belt fasteners

The basic tools and methods described and illustrated on these pages tell maintenance men about proper belt care

By A. F. Matheis
Assistant Vice-President
Thermoid Co., Trenton, N. J.

Don't Delay Repairs On Conveyor Belting

TO GET the maximum service life out of conveyor belting, industrial users should take particular care to repair all belt damage as soon as it is discovered.

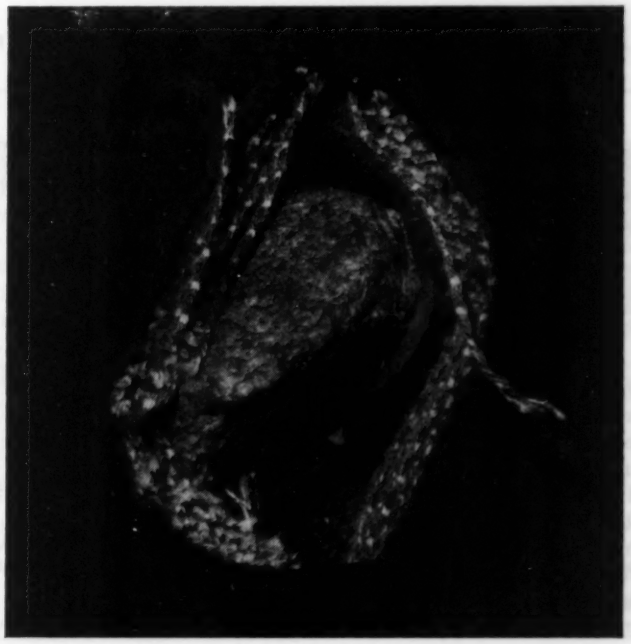
Belt fabric exposed to weather or damp atmosphere will absorb moisture, if the protective cover becomes damaged, and may even become soaked. In warm weather, this condition leads to mildew and rot; in winter, ice crystals may gnaw at the fabric from within as the belt flexes. Thus, immediate repairs not only prevent the spread of damage, but also keep out the water which is the natural enemy of any conveyor belt.

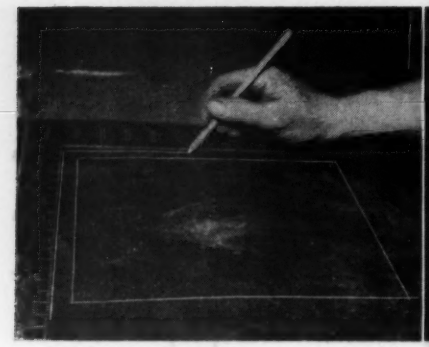
Some Basic Procedures

The simple tools and procedures outlined here will help the maintenance man to give belting proper attention. An adequate repair kit includes sharp cobbler's knives and a stone to keep them sharp; a supply of emery cloth; rubber cement; inner tube patching rubber; rip plates and standard belt fasteners and accessories; and rags and cleaning fluid. As each belt is installed, remnants should be kept, because they will prove useful in subsequent repairs.

One important advantage of having a repair kit assembled is the

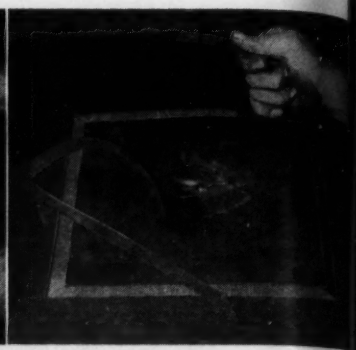
The picture series on the next two pages shows the step-by-step repair job after a maintenance crew discovered the rock puncture



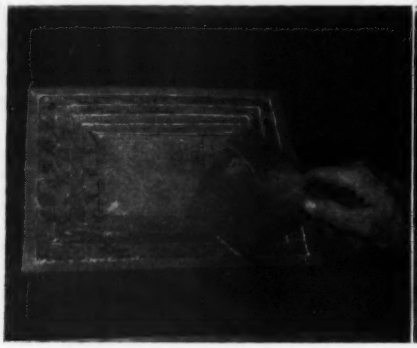


1 Section of belt to be removed is marked out so that the final square, after cutting squares of lesser size, will cover bad area

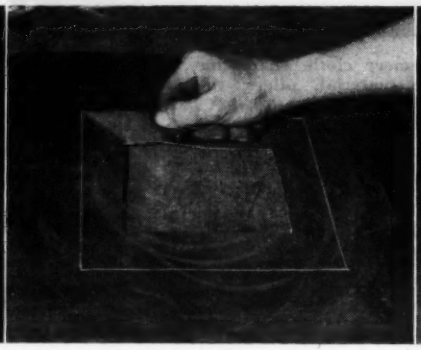
2 A thin strip, about ½ in. wide, is marked out inside the large square and the knife cuts the cover to the first layer of fabric



3 The thin strip is pulled off and the first cut has been completed, preparatory to removing the initial layer of fabric



7 Finally, bottom cover is freed. Note that bad area is removed completely, and the lengthwise cuts are parallel to the edge



8 As belt is turned, bottom cover is pulled off in a two in. strip which exposes rough surface that is sealed tightly with cement

9 Check that exposed belt fabric is dry. Clean and roughen the fabric and apply cement thoroughly to insure good adhesion

. . . Conveyor Belting

(Continued from Preceding Page)

ease with which emergency repairs can be made. Belts may be damaged accidentally at any time. It may be necessary to make quick repairs to keep a belt in operation for a few hours to avoid interrupting production.

For Quick Repairs

Fasteners and rip plates lend themselves well to quick repairs when a deep cut or tear has occurred, so that working the belt will not extend the tear. For smaller breaks in the cover, a piece of remnant cover stock may be cemented over the break to keep out moisture and dirt until more permanent repairs can be made.

Or Permanent Mending

To mend long and deep cuts which go through to the fabric, open the cut, clean out all dirt, and cement the cut closed; allowing the cement to dry thoroughly before the belt is restored to service.

Where bits of torn cover leave exposed spots with only slight damage to the fabric, remove the loose ears of cover stock by carefully cutting a curved and bevel-edged area around the spot. Then sand the edges, apply cement, allow it to dry, apply tire patching rubber and finally skive the patch flush with the belt cover.

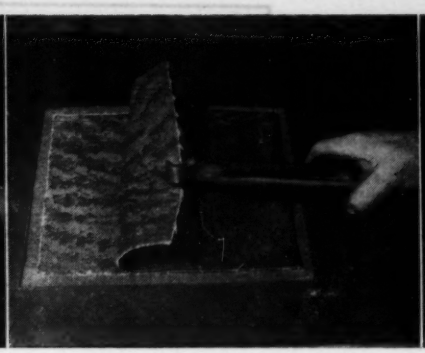
Where gouges have penetrated the belt, or longitudinal rips have occurred, these points must be cleaned, sanded, cemented and reinforced with rip plates at three-in. intervals.

Belt Fasteners

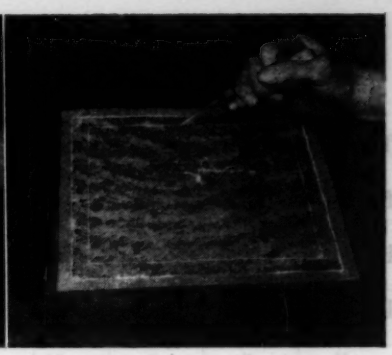
Transverse rips require similar treatment with standard belt fasteners instead of rip plates. Use rip plates on longitudinal rips only, and standard fasteners on transverse rips only.

When holes in the belting do not permit the simple use of rip plates and fasteners, cut out the hole into the smallest possible rectangle, with its sides parallel to and at

4 Use edge of the square of the cover inside the strip as guide and cut first layer of fabric being careful not to cut too deeply



5 Belt pulling pliers are used to remove the adhering cover which is the first in a series of the diminishing rectangular cuts



6 Remove smaller block at each layer, indent squares about ½ in. before cutting, and keep cuts parallel, at right angles to edge

10 After applying cement, squares of rubberized fabric are cut to fit each cover layer until the cut area has been filled

11 A piece of uncured rubber of the same thickness and composition as original is cemented and rolled flush to the belt

12 The patched belt is placed in vulcanizer for final stages of the process. For information on portable vulcanizers, see below

right angles to the belt edges. Then, from belting remnants, cut an exact fit for the hole and insert the piece, securing it with belt fasteners all around the patch. Cement all edges thoroughly.

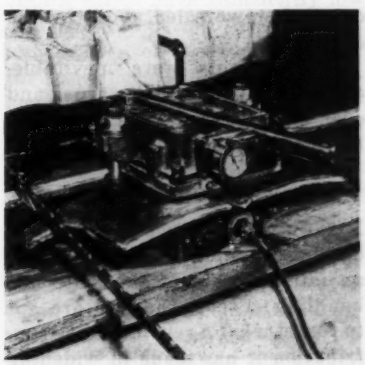
Where it is necessary to prevent seepage of fines through belt repairs, remove one ply of fabric from a belt remnant and place it under the fasteners and rip plates.

Users of thousands of feet of conveyor belting such as mines, quarries, etc., probably will find it profitable to set up an extensive belt maintenance and repair organization including a belt boss

(*Please Turn to Page* 42)

Portable Vulcanizer

The portable vulcanizer is made ready to vulcanize small damaged area near the belt edge. Bottom half is placed under the belt. Portable vulcanizer is best adapted to quick repair jobs

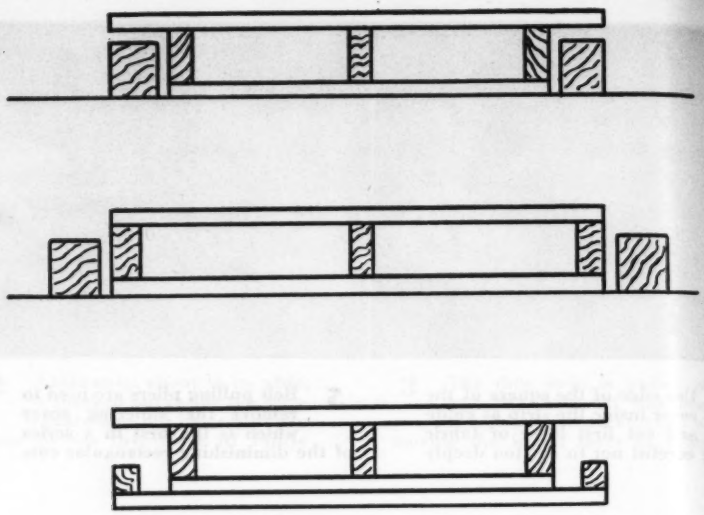


The structure of the portable vulcanizer shows how top half is bolted to the bottom, with the belt in between. The old belt in front supports part of vulcanizer not touching repaired spot

Narrow Aisles?

These operator-led trucks, fully mechanized in 1936, have widened use of unit load in materials handling

By D. O. Haynes
Consulting Industrial Engineer



Three pallet types: (Top) outriggers with semi-wing pallet; (Center) outrigger and flush pallet; (Bottom) separator and one-wing pallet

STACKERS had been used for elevating loaded skids many years before the first true fork truck made its appearance. Powered models of these older-type machines were originally equipped with electric motors for raising loads, the source of power being the line current of the plant, but they still had to be pushed about manually.

In 1936, the low-lift pallet truck was completely mechanized and it was not long after that when stackers were also offered with storage batteries, motors and hydraulic systems. These changes brought them into the general class of industrial power trucks, but they were given the name "walkies" because they were led about by the operators.

Improvements were inevitable, and there are now rider types and even counter-balanced machines built along stacker lines.

"Walkie" an Integral Part

The "walkie" truck found immediate acceptance and is today such an integral part of the materials handling scheme that we are apt to forget what a revolutionary contribution it has made in widening the application of unit-load handling.

There are many situations as, for example, in old multi-storied buildings with elevators of limited capacity and low floor-load limits where the conventional, counter-balanced type of fork truck cannot be used. Individuals responsible for operating under such conditions realized the advantages to be gained from palletization but were unable to make use of the new technique until the "walkie" made it possible for them to do so.

Lightness and Shortness

Two inherent features account for the unique position held by the modernized stacker—lightness and shortness. Both of these characteristics stem from the fact that the machine is not counter-weighted. It is equipped with supporting members called outriggers which are always under the load and in contact with the floor surface, so that the weight of a suspended load is carried on the drive wheel at the front end and the wheels in the rear ends of the support arms, the outriggers.

The best way to illustrate the differences in weight and length between counter-balanced and non-counter-balanced machines is to take some typical machines of each type and tabulate these features.

In the accompanying table are also included these same figures for a couple of rider and counter-balanced "walkies" as well as certain dimensions of outriggers to which reference will be made later. For each truck shown a 48-in pallet has been selected and the capacities and lengths are, therefore, comparable.

Table I—Advantages

A study of these figures shows clearly that the walkies win hands down over the counter-balanced trucks when it comes to weight and length and that even the rider-type and counter-balanced type walkies offer advantages in these respects over the true fork trucks.

There are, of course, features

TABLE I
Weights and Dimensions of Various Stacker-Type and Conventional Fork Trucks

Type Truck	Type Pallet	Capacity at 24" L.C.	Weight Machine + Battery	Machine Weight per 1000 lb. Capacity	Overall Length	Ft. Length per 1000 lb. Capacity	OUTRIGGERS		Frame Under-clearance
							Width	Height	
Walkie	Single-Face	3000 lbs.	2700 lbs.	900 lbs.	99 13/16"	2.8 ft.	8"	3 3/8"	1 3/8"
"	"	4000 lbs.	2984 lbs.	746 lbs.	86"	1.8 ft.	5 1/4"	3 1/4"	1 1/2"
"	Double-Face	3000 lbs.	3000 lbs.	1000 lbs.	94 5/16"	2.7 ft.	5 1/2"	6 5/8"	2 5/8"
"	"	4000 lbs.	1884 lbs.	470 lbs.	71 1/2"	1.5 ft.	3"	3 1/2"	2"
"	"	4000 lbs.	3384 lbs.	846 lbs.	83"	1.7 ft.	4"	4"	2"
Walkie Counter-Balanced	Any	2000 lbs.	3576 lbs.	1788 lbs.	112"	4.7 ft.	—	—	2"
"	"	3000 lbs.	3684 lbs.	1228 lbs.	110 1/2"	3.1 ft.	—	—	3"
Rider Stacker	"	2000 lbs.	2650 lbs.	1325 lbs.	77"	3.2 ft.	3"	5"	2"
"	"	3000 lbs.	2376 lbs.	792 lbs.	78"	2.2 ft.	6 1/4"	3 1/4"	2"
Conventional Fork Truck	"	2000 lbs.	4950 lbs.	2480 lbs.	127 1/2"	5.3 ft.	—	—	4 1/4"
"	"	3000 lbs.	6785 lbs.	2260 lbs.	137 3/4"	3.8 ft.	—	—	5"
"	"	4000 lbs.	7760 lbs.	1940 lbs.	137 3/4"	2.9 ft.	—	—	5"

A "Walkie" May Fit Your Needs

about the walkies which do not compare favorably with regular machines, notably in the matter of speed in both translation and elevation. Most conventional machines can attain speeds of up to six or seven mph, and this includes the rider-type walkies, whereas the machines which are led by the operator are limited to three or four mph. When it comes to lifting with full load the forks truck can elevate at a rate of 24 ft to 30 ft per min, while the stacker type machine are limited to somewhere between 12 ft and 15 ft per min.

Difference in Outriggers

Walkies are designed to handle skids and pallets, but the arrangements of the outriggers differ somewhat in the platform and fork models. The former take advantage of the comparatively high under-clearance of the load carrier and space the outriggers so they run *under* the skid. The wheels in these arms are also larger than those used with pallet-handling machines, a decided advantage over rough floors, elevator openings, etc.

There are also models available for use with single-faced pallets. We have seen that single-faced pallets are actually very low skids and with them, due to the absence of bottom boards, the outriggers can run under the pallet, provided only that the outriggers are sufficiently low to clear the top boards of the pallet.

Straddle Types

Machines for handling double-faced pallets have widely spaced outriggers which straddle the pallet and are on this account frequently referred to as straddles and the machines themselves as straddle-type walkies. But even this arrangement permits of two different methods of straddling.

We shall consider both in some detail because they offer distinct advantages and disadvantages to be taken into account in selecting fully mechanized stackers.

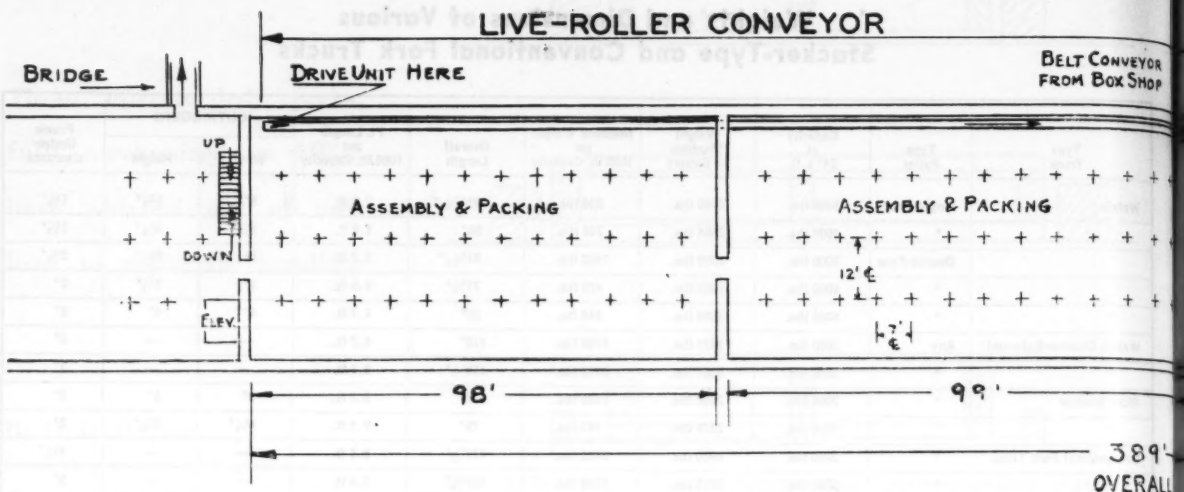
Reference to Table I and the headings under which the dimensions of outriggers are given discloses considerable variation in this feature of design. Semi-wing type pallets can be used with machines which have sufficiently low outriggers to permit their running under the over-hanging boards of the upper deck. When this arrangement is used it is possible to position pallet loads very close to each other.

Width of Outrigger

If, on the other hand, it is necessary to straddle the load fully, the width of the outrigger must be taken into account in calculating the amount of space necessary between adjacent pallets. The accompanying sketch illustrates the situations encountered.

There is no question but that the use of flush-type pallets is ad-

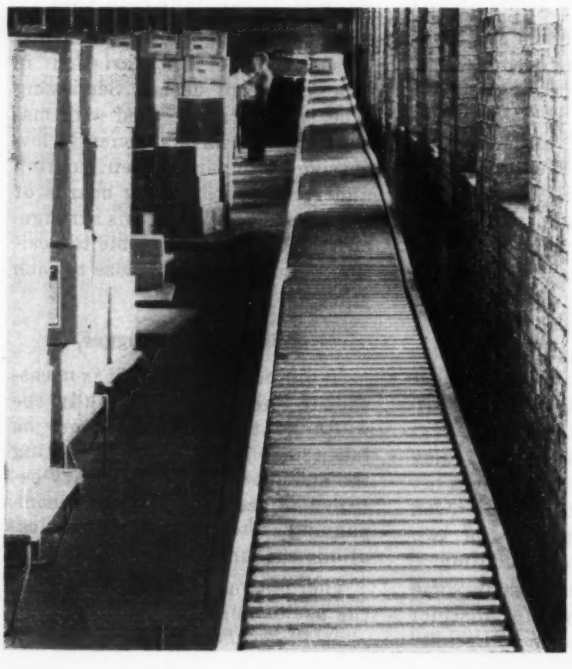
(*Please Turn to Page* 63)



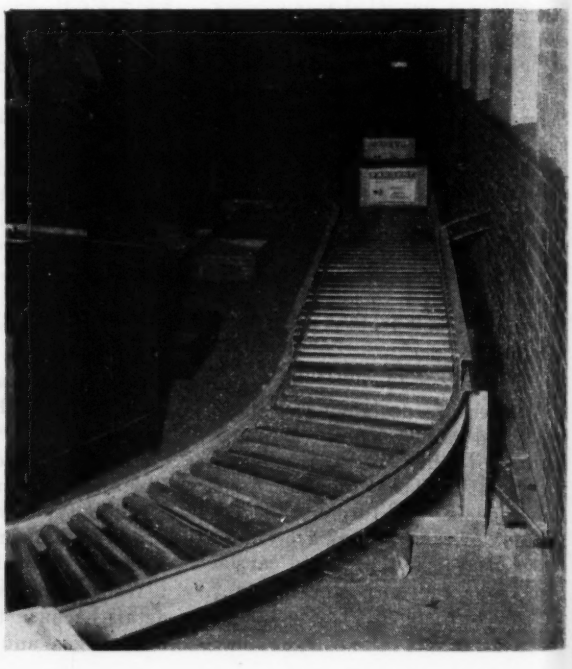
World's Longest Live-Roller

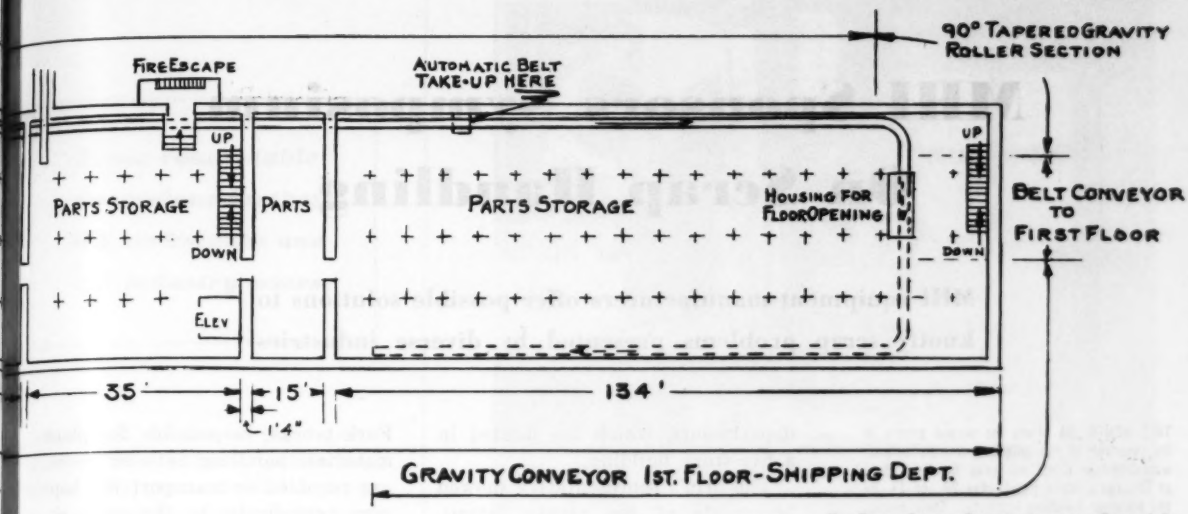
Materials handling plan for multi-story building, narrow aisles and crowded elevators

A portion of the live-roller conveyor which runs along an outside wall through the parts department to a 90 deg unit



This section of 90 deg tapered roller conveyor feeds to belt conveyor which takes boxes to first floor shipping room



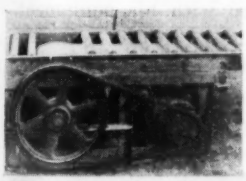


In flow chart of system, note that aisles and elevators are freed to handle parts

Conveyor

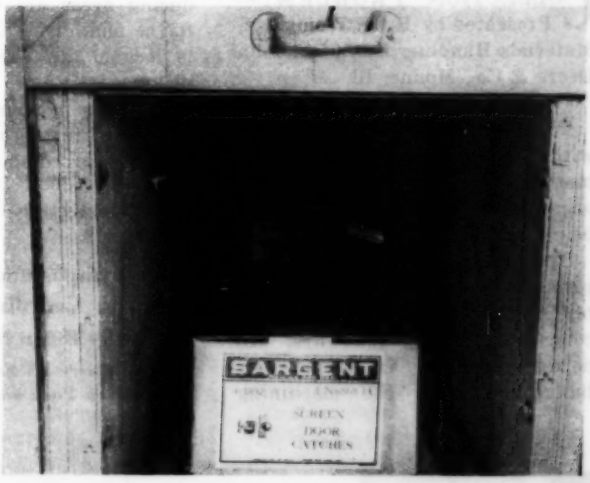
By Herman A. Scharf

Plant Engineer & Records Supervisor
Sargent and Co., New Haven, Conn.



Left: Five hp motor drives the 365 ft roller conveyor

Right: Belt conveyor puts boxes on roller unit which gravitates to first floor



THE buildings of Sargent & Co., New England hardware manufacturers, represented the last word in efficient industrial layout when they were constructed in 1864.

But by 1952 standards, a series of multi-story, "mill" type buildings of long and narrow construction with closely spaced supporting columns, could create a rather serious materials handling problem.

At the time of construction, 88 years ago, during the pioneer days of New England manufacturing, none of our company officials could have been expected to predict the phenomental improvements in machines and methods which would result in steadily increasing amounts of raw materials, work in process and finished products passing through a given production center per unit of time.

Today, the flow of these greater volumes has presented very real problems.

Used Skids, Hand Lifts

The accepted handling equipment under the original conditions, and until comparatively recently, had been the tote box mounted or placed on skids with hand lifts to provide mobility. This was quite satisfactory until it bogged down under volumes which brought about traffic congestion in narrow aisles and bottlenecks at elevators. Something had to be done to remedy the situation. In many instances we have found relief through the use of conveyors.

Take, for example, the situation in one of our assembly departments. This was located in five

(Please Turn to Page 62)

Part 2

MHI Sponsors Symposium On Scrap Handling

MHI equipment manufacturers offer possible solutions to knotty scrap problems presented by diverse industries

THIS MONTH, DA offers the second article in its coverage of the unique user-manufacturer workshop-type clinic on scrap handling, held at Chicago's Drake Hotel, May 22 and 23, by the Material Handling Institute. Their discussion, suggestions and solutions regarding varied scrap handling problems are presented here—Ed.

COLLECTION PROBLEM:—Presented by H. H. Weingartz, Materials Handling Engineer, John Deere & Co., Moline, Ill.

THIS company has one plant with a scrap problem similar to many other plants in the same organization — that of collection being spread over a wide area.

The punch and shear, machining, primary assembly and final assembly are in individual buildings connected only by roadways. All departments are in single-story buildings except the machining departments, which are located in a five-story building.

The firm's representative showed blueprints of his plant's layout, illustrating the centralized scrap disposal area and its relation to the departments from which scrap emanates. While most scrap-producing areas are reasonably close to the final disposal point, one area is located at a relatively greater distance.

All scrap hoppers (Roura type) are placed in the outgoing stations in the processing departments.

Symposium Reports Coordinated By Brian R. Carter

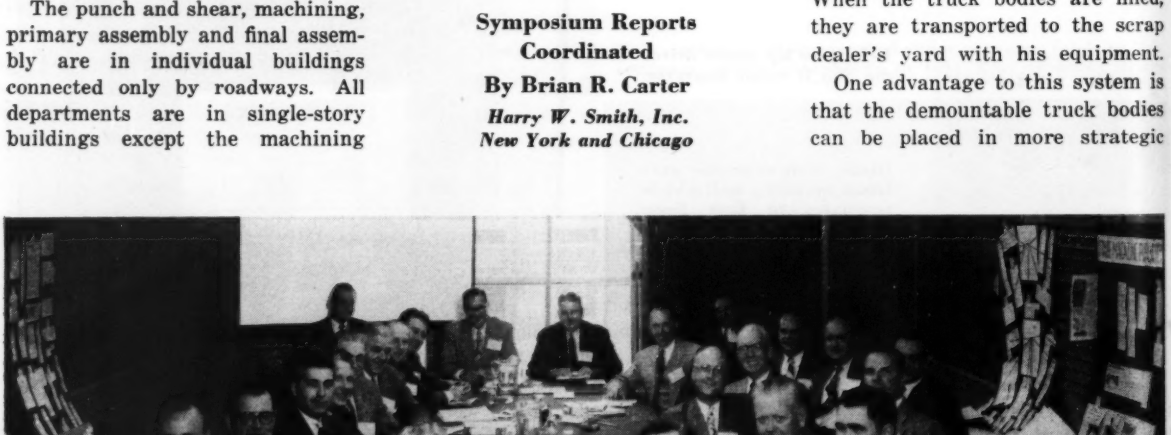
Harry W. Smith, Inc. New York and Chicago

Fork trucks, responsible for plant materials handling between zones, are required to transport the hoppers periodically to the scrap accumulating area, dump them into the scrap bins, and return to the departments where they originated.

The scrap is loaded into railroad cars by bucket crane for shipment. Approximately two carloads (50 to 60 tons) are accumulated each week.

In some plants of this company, the scrap hoppers are used to load directly into demountable truck bodies instead of storage bins. When the truck bodies are filled, they are transported to the scrap dealer's yard with his equipment.

One advantage to this system is that the demountable truck bodies can be placed in more strategic



Attending the MHI's Symposium on Scrap Handling were: (clockwise starting at foot of table) R. L. Wolter, Yale & Towne Mfg. Co.; R. H. Weingartz, Deere & Co.; O. T. Henkle, Jr., Mercury Mfg. Co.; L. L. Poe, Falk Corp.; G. H. Meyfarth and E. W. Franz, May-Fran Engineering, Inc.; D. E. Martinelli and D. F. Redman, International Harvester Co.; L. W. Shea, Union Metal Mfg. Co.; B. R. Carter, MHI Staff; Chairman W. E. Schirmer, Clark Equipment Co.; J. L. Beltz, MHI Staff; J. G. Bucuss, MHI Staff; A. S. Wrobleski and C. E. Barner, American Monorail Co.; W. J. Dernberger, Ford Motor Co.; G. Walden and C. E. Cooke, Dempster Bros.; J. A. Wall, Caterpillar Tractor Co.; C. E. Killebrew, The Frank G. Hough Co.; L. Olson and W. Nelson, Rockford Drop Forge Co.; F. J. Schmidt, American Steel Dredge Co.

These round-table discussions further MH techniques and aid industry users

locations, in relation to the departments. This reduces, somewhat, the lengthy tour around the plant in delivering the scrap to the final storage bins.

The rental charge for dealer's equipment more than offsets the manual handling cost of the scrap. The firm receives the same price per ton from dealers, whether the scrap is loaded into gondola rail cars or into demountable truck bodies.

Under these conditions, the problem presented to the panel was: Would it be advisable to consider baling and briquetting equipment, or what improvements could be made to the present methods to reduce scrap handling costs?

CLINIC'S SOLUTION: — The first part of the problem developed the conclusion that, because of the relatively small amount of scrap produced, baling or briquetting be uneconomical. It was pointed out that the break-even point for baling would be about 30 tons of scrap daily.

An observation of the cost differential, supplied at the meeting, on the use of the two different methods in these plants (demountable) truck bodies versus collection bins at points of accumulation) was too small to warrant change.

The discussion then turned to the specific steps and procedures of scrap handling, from primary generation to the point of accumulation.

One suggestion was the use of containers equipped with wheels or casters, at each production machine, of a type that could be

(*Please Turn to Page* 53)

Fork truck deposits pallet load on roller section at elevator entrance

Three Unit System Facilitates Parts Handling

MH scheme keeps elevator in constant use

COORDINATION of a fork truck-conveyor-elevator system in Building No. 8 at the Stewart-Warner Corp. main plant, in Chicago, permits a moderate capacity freight elevator to move more than 200 tons of pallet loaded automotive instruments and Alemite parts between floors each day.

The fork truck picks up pallet loads, deposits them on roller track sections installed at each of seven elevator landings, signals the elevator and returns for another load. The elevator attendant pulls the waiting pallet onto a roller conveyor in the elevator, carries it to the first floor, and pushes it onto a roller track section at the landing.

Installed flush with the sill, roller track sections permit one man to both operate the elevator and move loaded pallets on and off. The roller conveyor sections are installed outside both the front and rear elevator entrances.

The elevator, which can carry two pallet loads at a time, is in almost constant use since it seldom has to wait at a floor to be loaded or unloaded. Track sections on the first floor can accommodate five and eight loads at once, while those on the upper floors can hold three pallets in a row.

Even though the 3½ by 4-ft pallets carry from 500 to 3000-lb loads, use of the roller conveyor makes their handling easy. In some instances a pallet jack rather than a fork truck is used to carry loads to and from track sections.

To speed handling, the elevator rear entrance is equipped with a power operated hoistway door, with controls at the front of the car. The 200-fpm elevator is capable of 265 round trips per 8-hr day. •

Costs Slashed by Strapping

System of forming shook patterns and using fork lift trucks has cut 95% time from manual handling method

THE Menominee Box and Lumber Co. of Menominee, Mich., now loads freight-car shipments of box shook in four to five per cent of the time previously required. The creation of a method of forming and handling large unit-loads has dramatically reduced loading time to a small fraction of the 50 to 60 man-hours previously required to manually handle the 2,500 small bundles of shook needed to fill each box car.

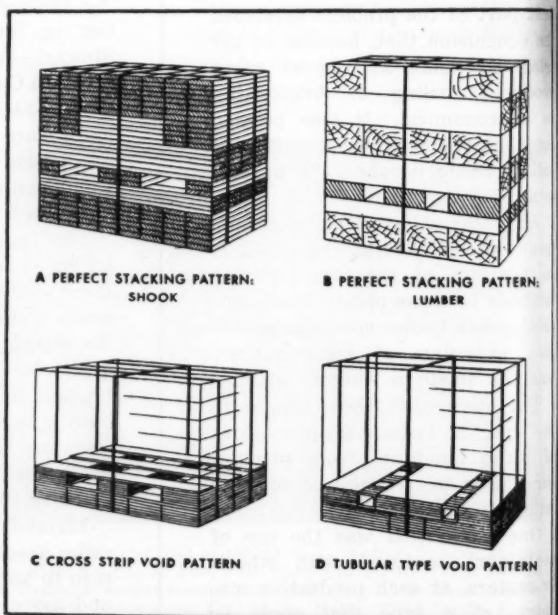
An average box car shipment of 30,000 board feet of lumber now contains only 75 bundles, stacked two high and two wide. This consolidation is possible because of the rigidity of the shook bundles when secured with three or more bands of ¾x.020 in. Acme Steelstrap. The lift trucks now used permit handling of unit-loads weighing in excess of 1,000 lb. In addition, a fork-truck handling system, necessitated by the size and weight of strapped shook bundles, increases the usable storage space and stacking height.

Eliminated Pallets

Freight savings, storage space and stacking height can be further increased by eliminating the pallets ordinarily used when handling strapped bundles of shook, thus cutting dunnage to the bone and reducing space requirements. The Menominee Box and Lumber Co., following considerable experimentation, designed stacking patterns for just this purpose. The variety of shook sizes required separate patterns for each type of load. However, all bundle designs have one thing in common—voids created within the bundle to allow entry of the lift fork tines.

In most cases, the predetermined voids are created by using a natural stacking pattern. Where this is not possible, voids are formed by tubular dunnage or cross strips of shook. These same principles may be adapted with equal effectiveness to other commodities shipped in bundle form where a definite stacking pattern may be achieved. •

A fork truck, using pallet-like voids, lifts half-ton shock bundle; machine method cut 95% time from old manual way


A PERFECT STACKING PATTERN: SHOOK
B PERFECT STACKING PATTERN: LUMBER
C CROSS STRIP VOID PATTERN
D TUBULAR TYPE VOID PATTERN

Variety of shook sizes require separate patterns for each type load; each design leaves voids for entry of truck tines

JUDSON FREIGHT FORWARDING...

Handy when you move personnel

Transferring Personnel? Here's a sure answer to the delicate problem of keeping everyone happy... whenever you ship household goods, personal effects, and automobiles. Benefit from Judson Freight Forwarding's many years of experience and know-how in this special type of shipping. You can get complete details and friendly help from your National Carloading representative. He'll be glad to suggest a plan that represents maximum efficiency and economy to you... minimum trouble and worry to the householder.

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Serving 30,000 communities through more than 100 stations in the U. S. and agents in principal foreign countries.

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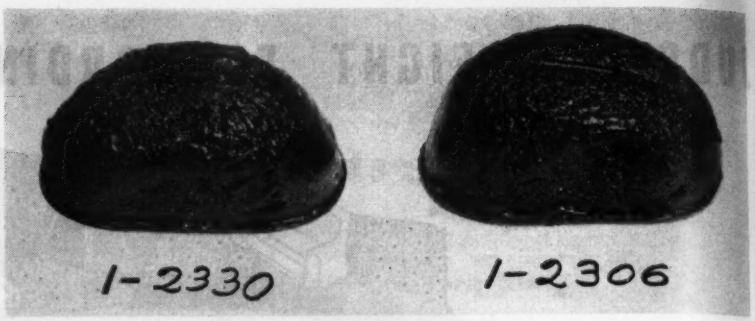
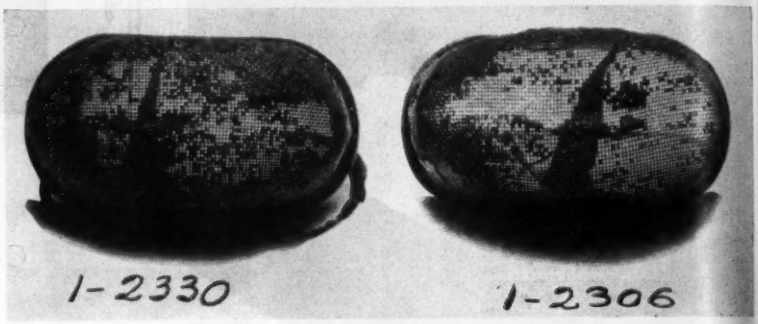


Note the plugged condition of oil screens before introduction of the high additive Shell oil; screen at left is from machine driven 29,000 mi, screen at right from one driven 35,000 mi. Picture below shows that screens become cleaner as oil circulates

These photos of the same oil screens, taken after the new oil had been in the same machines 3,174 and 4,124 additional miles, show that the oil clears screen of the sludge as it lubricates. At later stages, screens would be completely clear of sludge



New Oil Reduces Truck Maintenance Costs

High additive Shell lubricant cleans plugged oil screens without flushing

COLD-WEATHER sludge, and other problems associated with the low temperature, stop-and-go operation common to gasoline engine trucks used in industry and highway transportation, continue to plague fleet operators and increase their maintenance costs.

Many testing programs are being conducted by operators to reduce the problems.

One fleet owner, for example, has been working with a relatively new lubricating oil to test its capacity to maintain cleaner engine operation by stopping severe sludging, and consequently reduce engine wear, oil consumption and maintenance costs.

High-Additive Oil

The new lubricant requires only that equipment be changed over to the special oil (which has been highly fortified by selected alkaline additives) without flushing or special cleaning and scrubbing methods.

The success of the changeover is shown in the photo comparison on this page, with views of two oil screens which were removed from two half-ton Chevrolets at various stages of the test. (Ambient temperatures during the time of the test ranged from 10 deg F to 90 deg F. During the test period, the trucks averaged from about three to five mi between stops.) The extensive cleaning action of the high additive oil is clearly evident from inspecting the photographs.

Readers should note that the two oil screens were from 90 to 98 per cent plugged when first inspected (See Fig. 1) at approximately 29,000 and 35,000 miles respectively. The screens were reassembled without cleaning, new filters were installed and the new high additive oil was introduced after the standard heavy duty oil was removed. The initial oil change period was to be 1,000 mi, with 2,000 mi oil change periods following.

Fig. 2 shows the screens after the new oil had been introduced. The screen on the left had been in the engine an additional 3,174 mi (or about 32,000 in all) and the screen on the right had undergone 4,124 mi (or about 39,000 in all) to show the effect of the strong cleaning action. It is worth noting that the screen on the right, having run more miles with the new oil, is the cleaner of the two.

Answer to Problem

This small visual example, taken from a large-scale test, is significantly encouraging in the search for an answer to the problem of excessive sludging.

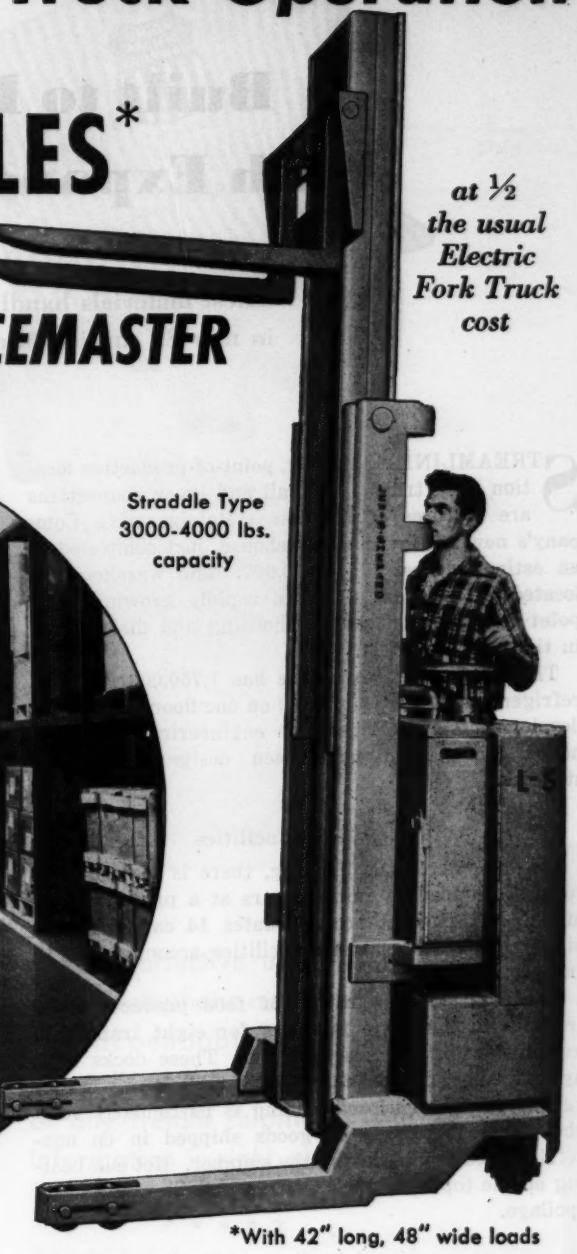
The balance of the field-conditions test is expected to reveal even more positive evidence of the ability of high additive oils to maintain cleaner engines under widespread, low temperature practice. •

Full Electric Fork Truck Operation in 6 FOOT AISLES*

The ALL NEW LEWIS-SHEPARD SPACEMASTER MODEL "M"

at ½ the usual Electric Fork Truck cost

Straddle Type
3000-4000 lbs.
capacity



40% More Storage Space . . . The "M" uses only 6 feet of this 10 foot aisle, leaving room for an extra row of stacked loads.

You get more travel speed with more stability, plus higher lifts at faster speeds than with any similar truck . . . All controls are in the palm of one hand for quicker, safer operation.

*With 42" long, 48" wide loads

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Get the Facts

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I want to hear more about the new "M" Model.

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Midwest Plant—CRAWFORDSVILLE, IND.
Sales Service in Principal Cities • See "Trucks, Industrial" in your Yellow

Circle No. 111 on Card, Page 51, for more information

Built to Keep Pace With Expanding Industry

Latest materials handling techniques utilized in new $2 million Midwest frozen food unit

STREAMLINED handling, point-of-production location and "trunk line" rail and truck connections are features of Merchants Refrigerating Company's new refrigerated warehouse, just completed at an estimated cost of $2,000,000. The warehouse is located in Hopkins, Minn., a rapidly growing focal point of food products warehousing and distribution in the upper midwest.

The 527-ft long warehouse has 1,750,000 cu ft of refrigerated storage space, all on one floor. The latest developments in refrigeration engineering and warehouse construction have been designed into the structure.

Truck, Rail Facilities

On one side of the building, there is a wide platform for unloading railroad cars at a private siding of the M&StL that accommodates 14 cars. On the other side, truck platform facilities accommodate 18 trailers.

For additional protection of food products being trucked in, there are facilities for eight trailers to load inside an enclosed platform. These docks have hydraulically operated ramps adjustable to any trailer gate level. The enclosed loading is particularly valuable for safe-keeping of goods shipped in on non-refrigerated trucks during the summer. Hot sun beating on the top of a truck waiting outside would mean spoilage.

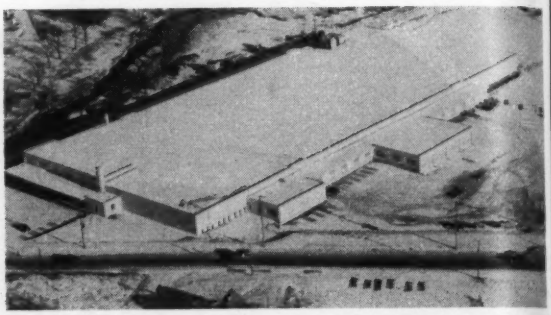
Pallets and Fork Trucks

The one-story construction of the warehouse is the most efficient for loading and handling materials, according to the owners. Products are unloaded directly onto pallets, which are transferred to the storage area by fork lift trucks. Goods can be stored to a height of 14 ft, including working space, and are kept on pallets until loaded again on trucks or boxcars. The firm stresses prompt service and better protection of products and packages through its pallet loading system, which means a minimum of handling and low handling costs.

Work was started on the warehouse in the fall of 1950 under the direction of Turner Construction Co., New York, principal contractors, and the Knutson Construction Co., Minneapolis, local general contractors. The architectural firm of J. B. Snook Sons-Victor C. Farrar, also of New York, designed the building.

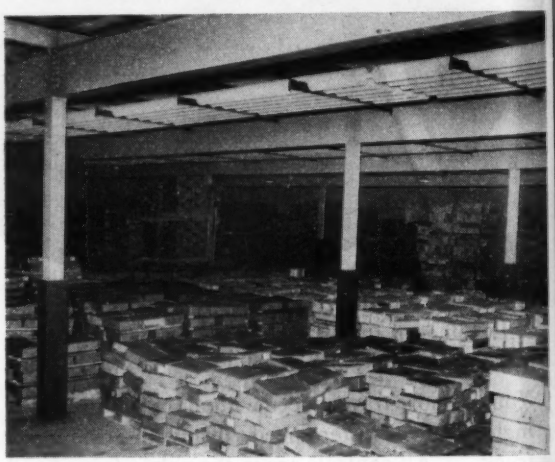
It was erected on a concrete foundation with a

(*Please Turn to Page* 70)



Above—New four-acre cold storage house, situated in heart of producing area, is handy to every type of transportation

Below—Completely palletized operation and 14-ft stacking height via fork trucks speeds handling of perishable goods



It's Right at our Finger Tips

One of our most important jobs is keeping an eye on freight shipments while they're in our care. For example, a manufacturer's production schedule may depend on the arrival at destination of a certain car or cars on a specific date.

That's the reason for our having what might be called a "three tell" tracing system, making effective use of telegraph, telephone and teletype. This dependable 3-way system *tells* us the exact location of any freight shipment. The information is *right at our finger tips.*

* * * * *

For helpful cooperation and information, call our nearest Union Pacific freight man at any time.

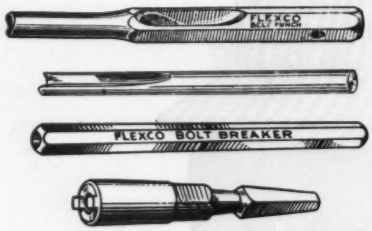
Be Specific – Ship "Union Pacific"

(Offices in 70 cities throughout the U. S. A.)

Circle No. 112 on Card, Page 51, for more information

. . . Conveyor Belting

(Continued from Page 29)



Here are four of the special tools used for installing fasteners and rip plates

and crew, repair shop with long belt drying racks and tables, portable and stationary vulcanizers. Vulcanized patches and splices have greater flexibility, strength and permanence than those described above.

In preparing a vulcanized patch, work down into the damaged belt as far as necessary by removing progressively smaller blocks of fabric with each successive ply. Clean, roughen and cement the cavity, neatly fit in blocks of new fabric and finally apply the uncured cover. Skive the edges of the patch flush, and vulcanize.

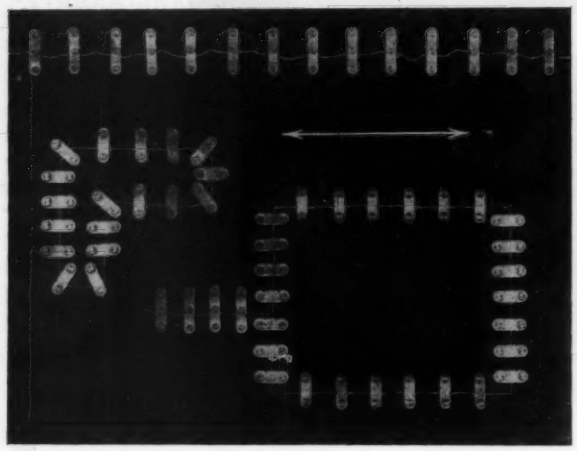
Blister Warning

Such patches cannot be made successfully unless the belt is dry, because the presence of moisture will permit the development of internal steam blisters.

Only very large users of conveyor belting will find it necessary to vulcanize their own belt patches and splices. Small users can arrange with belt manufacturers, local firms or neighboring large users for vulcanizing service, when required. •

(Resume Reading on Page 30)

Rip plates were used to repair longitudinal tear at top. Others shown are fasteners, except four left of big patch



Worker installs rip plates to longitudinal tear, to insure against further damage and to make belt usable again

MEN in the NEWS

(Continued from Page 15)

William W. Scull—named director of purchases and traffic, B. F. Goodrich Co., Akron, Ohio.

James P. Curry—retired after 32 years as traffic manager of the California Walnut Growers Association.

Transportation—Air

Robert Strong—appointed public relations and advertising manager Slick Airways, with offices in Burbank, Calif.

Rexford E. Bruno—elected comptroller of United Air Lines, Chicago, Ill.

—Highway

Esker O. Oxley and **Richard A. Staley**—named to the ATA research staff. **Peter T. Beardsley**—appointed director of ATA legal department.

James E. Hawthorne—elected executive vice-president and general manager of Allied Van Lines, Inc., Broadview, Ill.

Harry E. Eyler, former manager of Trailmobile's west central sales division, has been named general sales manager.

Marion J. Millard—named director of sales by P.I.E. **Leo A. Lynch**—new director of market research.

Joseph O. Young, former branch sales manager has been named general operations manager by Trailmobile, Inc. Young has been with Trailmobile since 1931.

R. L. Vaniman—retired as vice-president in charge of export, Fruehauf Trailer Co. **Charles P. Jacoby**—returned to **Fruehauf's** Chicago Branch as salesman after infantry service in Korea. **E. R. Neumann**—appointed manager of **Fruehauf's** Dayton, Ohio, Branch. **Victor G. Gross**—becomes manager of the Cincinnati, Ohio, Branch.

—Rail

Lloyd A. Dickson—appointed district manager of the Car Service Division of the Association of American Railroads, with headquarters in Omaha, Neb.

Alfred J. Ball—retired as foreign freight traffic manager of the Pennsylvania Railroad after 52 years service with the line.

Warehousing

Oliver A. Gottschalk—elected president of the Newark Control of the Controllers Institute.

Edgar V. Burnett—appointed Cincinnati terminal manager, Wilson Freight Forwarding Co.

(Resume Reading on Page 19)

THERE'S NO GUESSWORK ABOUT MODERN MOTOR FREIGHT OPERATION

THE CENTRAL DISPATCH CONTROL BOARD

in the P·I·E System Dispatch Office at Denver. By continuous posting of inter-terminal teletype information on this Board, the System Dispatcher can determine immediately the location of all freight in transit, as well as the distribution and availability of P·I·E equipment needed to keep shipments rolling on time.

Here is another P·I·E "behind the scenes" service to shippers . . . one more reason why *Shippers agree – it's P·I·E!*

GOOD CITIZEN OF THE HIGHWAYS

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PACIFIC INTERMOUNTAIN EXPRESS®

TERMINALS IN

CHICAGO • ST. LOUIS • KANSAS CITY • WICHITA • DENVER
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General Offices: 299 Adeline Street, Oakland 20, Calif.

Chuting the NEWS

(Continued from Page 15)

Longer Battery Life

A new method of storing lead acid batteries, by which the batteries are refrigerated to maintain potency of the charge, has been announced by Dr. H. C. Diehl, Director of The Refrigeration Research Foundation.

The refrigerated warehousing method requires battery recharging only once every six months when stored at a temperature of 32 deg F. Batteries stored at ordinary air temperatures need recharging at periods of from one to four weeks.

—DA—

Agriculture Secretary Brannan reports that there may be some "spot shortages of cans" for the 1952 food pack, despite a quick resumption of container production halted by the steel strike.

—DA—

A two-ft gauge, 62-mi network of railroads connects at 700 railroad, department store, government building, warehouse and manufacturing plant points below Chicago's business district.

—DA—

Traffic Scholarships

Four free scholarships for courses in traffic management are being offered by the Traffic Club of Chicago to residents in the United States who are 18 or older, and who are high school graduates or have equivalent training.

The traffic club is offering the scholarships to the College of Advanced Traffic, Northwestern University, LaSalle Extension University and Freight Traffic Institute to encourage study among the younger traffic men and to advance the calibre of men representing the industry.

Carrier Directory Survey

Survey forms have been sent to more than 6,000 traffic executives by the Regular Common Carrier Conference of the ATA as part of a study of existing motor carrier directories and routing guides.

Traffic leaders in large and small firms will be asked what motor carrier directory they are using, what type of national, regional or local publication their company prefers, and information as to service point listing and motor carrier facilities they want included. The ATA will compile and issue detailed recommendations in mid-September. DA will publish the findings.

—DA—

The first recent general price decrease in the conveyor industry was announced July 23 by The Rapids-Standard Co. when the price of aluminum gravity conveyors was cut six to 10 per cent.

—DA—

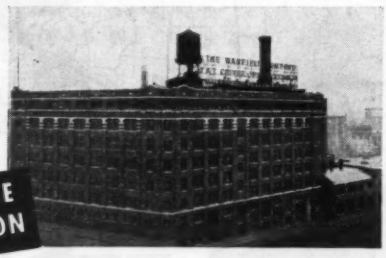
(Resume Reading on Page 19)

For Sale CHICAGO ILLINOIS (10 minutes from Loop)

320,000 SQUARE FEET AREA

Excellent Manufacturing Facilities

Zoned for Heavy Manufacturing



IMMEDIATE POSSESSION

- Plot: 155' on W. Cermak Rd. 404' on S. Lumber St.
- 6 carload siding inside building
- Excellent truck-loading facilities
- Canal dock loading
- All sides face light (no obstruction)
- 3 large, high speed, heavy duty elevators
- Tremendous electric advertising display sign
- Ample garage

ALSO AVAILABLE (Optional)

- High pressure steam boilers
- High power wiring—1,000 HP Nordberg Diesel engine
- 150 ton refrigeration
- Modern offices

LOWEST INSURANCE RATE (sprinkler system)

Unlimited Free Water

Minimum of 260-lb. Floor Load

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Use the Readers' Service Card for information on New Products and Free Literature. Simply fill in name and address, mail, and we will do the rest.

2 DA INDUSTRY SURVEY

This month we offer the first in a series of surveys. The results will be relayed to you readers in articles and cost-cutting information.

See Page 51

Plant Expansion

Goddeyne Mfg. Co., Bay City, Mich., manufacturers of farm and materials handling equipment, purchased **Kayel Wheel Division** of Kayel Machine & Tool Co., Detroit, Mich.

New York Central Railroad opened new Exchange Street Station in Buffalo, N. Y., as part of major track relocation plan.

Norge Heat Division of Borg-Warner Corp., moved its offices from Detroit to Kalamazoo, Mich.

Mike Krasilousky Trucking & Millwright Co. moved its entire plant from Brooklyn, N. Y., to Haverstraw, N. Y., after 62 years at first address.

Thad Huckabee, independent warehouseman, Albany, Ga., has purchased two steel buildings with aggregate floor space of 30,000 sq ft from **Luria Engineering Co.**

Associated Warehouses, Inc., has accepted into membership the **Dixie Warehouse Co.**, 1031 W. Main St., Louisville, Ky., R. W. Rounsavall, Jr., President. The company covers more than 300,000 sq ft of floor space and is serviced by two railroads.

Union Pacific Railroad Co. has opened a new manufacturing plant in its Cheyenne, Wyo., yards.

Bendix Aviation Corp. has established a wholly owned subsidiary in Sao Paulo, Brazil, to render more complete service to distributors and consumers in South America.

Templeton, Kenly & Co., Chicago, manufacturers of mechanical and hydraulic lifting jacks, is erecting a new plant of 86,000 sq ft floor area in Broadview, Ill.

Rel Plastics Corp. a new company specializing in the injection molding of proprietary plastics products, is now in full operation at East Paterson, N. J.

Borg-Warner Corp. has acquired the **Reflectal Corp.**, Hudson Falls, N. Y., the nation's largest producer of aluminum foil blanket-type insulation.

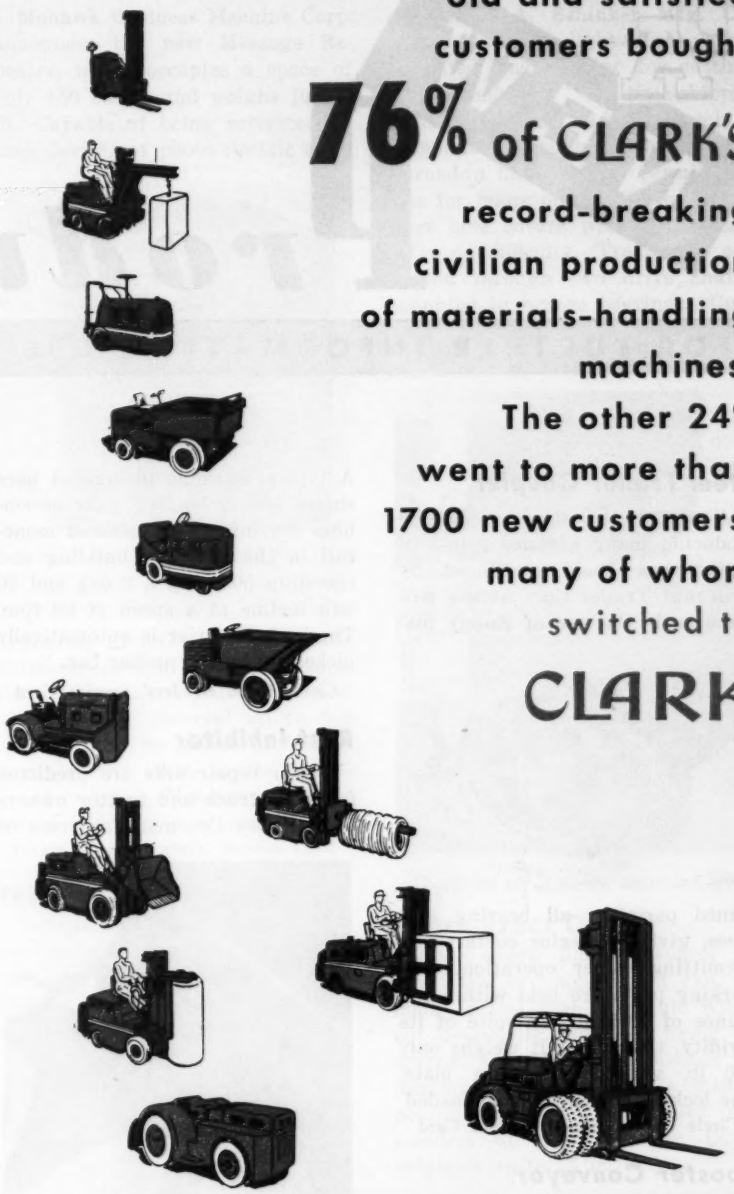
New York Belting & Packing Co., manufacturers of mechanical rubber goods, has joined forces with the **L. H. Gilmer**, also of New York City, manufacturers of V-belts, flat belts, timing belts and shock pads.

The Raymond Corp., Greene, N. Y., manufacturers of electric trucks, hand hydraulic lift trucks, pallet trucks and related materials handling equipment has added new distributors in Kansas City, Mo., Peoria, Ill., Tampa, Fla., El Paso, Texas and Toledo, Ohio.

American Coating Mills Corp., a subsidiary of Robert Gair Co., New York City, has acquired the business and certain properties of the American Coating Mills Division of **Owens-Illinois Glass Co.**

National Container Corp., New York City, has opened a stock box division at its Long Island City, N. Y., plant.

In 1951,
old and satisfied
customers bought
76% of CLARK'S
record-breaking
civilian production
of materials-handling
machines.
The other 24%
went to more than
1700 new customers,
many of whom
switched to
CLARK



To learn more about why CLARK retains its customers and steadily gains new ones, fill out the coupon, attach to your business letterhead and drop it into the mail.

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AND POWERED HAND TRUCKS · INDUSTRIAL TOWING TRACTORS

INDUSTRIAL TRUCK DIVISION · CLARK EQUIPMENT COMPANY · BATTLE CREEK 11, MICHIGAN
Please send: ☐ Material Handling News ☐ Movie Digest ☐ Basic Facts
☐ Please have representative call.

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Firm Name_____
Address_____
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AUTHORIZED CLARK INDUSTRIAL TRUCK PARTS AND SERVICE STATIONS IN STRATEGIC LOCATIONS

Circle No. 114 on Card, Page 51, for more information

DA NEW Products

FOR FURTHER INFORMATION USE READERS' SERVICE

Steel Trailer Coupler

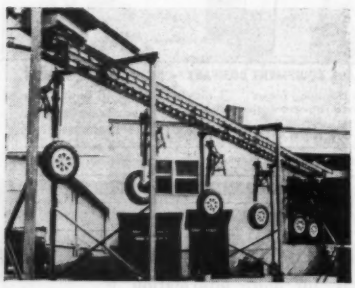
A new 34 in. steel coupler introducing many advance points of design has been announced by Fruehauf Trailer Co. Among new features is the use of closely ma-

chined parts on all bearing surfaces, giving superior contact and permitting easier operation. All working parts are held within tolerance of .005 in. In spite of its rigidity, the new unit weighs only 350 lb, without mounting plate. The lock is positive spring loaded.

Circle 11 on Readers' Service Card

Booster Conveyor

In connection with hand-pushed or gravity monorail systems, a booster conveyor to elevate loads from one level to another has been developed by E. W. Buschman Co.



A typical example illustrated here shows 500 lb landing gear assemblies leaving a hand-pushed monorail in the finishing building and traveling 50 ft up a 2 deg and 20 min incline at a speed of 60 fpm. The loaded carrier is automatically picked up by the pusher bar.

Circle 12 on Readers' Service Card

Rust Inhibitor

Fewer repair bills are predicted for auto, truck and tractor owners by Call Boy Co., manufacturers of

Protecto-Plate, a magnesium alloy rod suspended in the cooling system, under the radiator cap, to neutralize formation of rust. Electro chemical action in the Protecto-Plate causes magnesium in the unit to corrode away instead of walls and fittings of the cooling system.

Circle 13 on Readers' Service Card

Detachable Counterweight

For stevedoring and other operations where the operating weight of a fork truck may exceed ship's hoist or elevator capacity, Yale and Towne Mfg. Co. fork trucks

are now available with an easily detachable counterweight. The cast iron weight is held in place by guide pins and heavy steel brackets. It can be removed or attached in less than a minute.

Circle 14 on Readers' Service Card

Rotary Imprinter

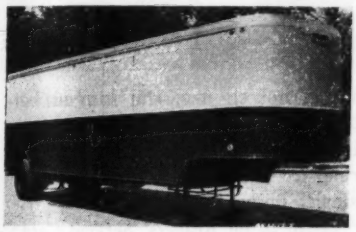
American Tag Co. has perfected a tag and label rotary imprinting machine, the American 400. The machine prints by the spirit duplicating process, with copy to be printed being typed on any standard typewriter. A special carbon-like paper backing transfers to a master sheet characters to be imprinted.

Circle 15 on Readers' Service Card

CARD . . . .

Lightweight Van

Gramm Trailer Corp. has announced a new lightweight Warehouseman Van of frameless construction. A typical frameless 32 ft van, with 1840 cu ft capacity,

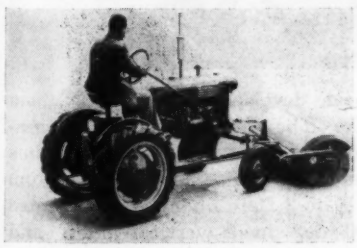


weighs 8774 lb. It features a vertical landing gear, flat type basket tire carriers, a 24 in. inside tailgate, concealed inside hardware, and water, dust and fireproof floor.

Circle 16 on Readers' Service Card

General Purpose Sweeper

Rolling off assembly lines at Meili-Blumberg Corp. is a new general purpose sweeper, specifically designed for International Cub tractors. The brush is hydrau-



lically raised and lowered, and is rotated from the rear take-off.

Circle 17 on Readers' Service Card

Message Repeater

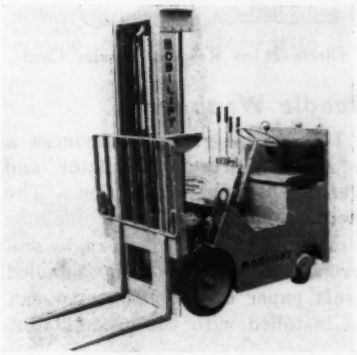
Mohawk Business Machine Corp. announces the new Message Repeater, which occupies a space of only 150 cu in. and weighs just 6 lb. Capable of being activated by such devices as photo electric cells,

hydraulic, micro or pneumatic switches, electric eyes or beams, etc., the machine, with announcements in any interval up to five minutes, can be placed anywhere, in or out of view, in the operational set-up. Messages can be erased and new ones recorded.

Circle 18 on Readers' Service Card

Rear Wheel Suspension

Mobilift's exclusive Mobil-Spring independent rear wheel suspension has been engineered into a new 3000 lb HR sit-down type fork

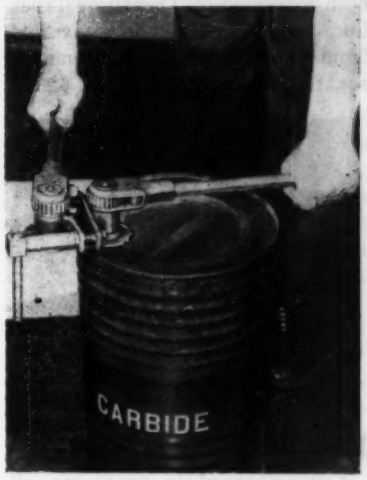


truck. The suspension, designed to cut driver fatigue and give the load and vehicle less shock, consists of a heavy duty spring and airplane type shock absorber for each rear wheel. Lev-R-Matic push-pull operating levers are located on the right side.

Circle 19 on Readers' Service Card

Head Cutter

Michael A. Schinker Mfg. Co. has marketed a lightweight, hand operated Head Cutter for cutting out heads of one-time-shipper drums and cans. After the cut is completed the container has a safe, turned-in flange which permits its use for many purposes. Secondary port hole covers within the head offer no difficulty. Traction is obtained through two drive shafts mounted in bronze bearings. Cutting and roller wheels are 3 in. in diameter.



Circle 20 on Readers' Service Card

Photo-Exact Copies

Photo-exact, finished copies of any office or shop record can be made in less than a minute without developing, washing, fixing or drying, with Copyfix, a product of Remington Rand, Inc. It makes positive copies of any record, regardless of type or color, from originals up to 14 in. wide.

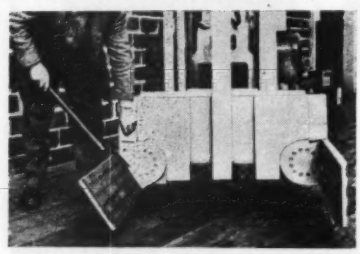
Circle 21 on Readers' Service Card

DA NEW Products

Continued from previous page

Roto-Arm Clamp

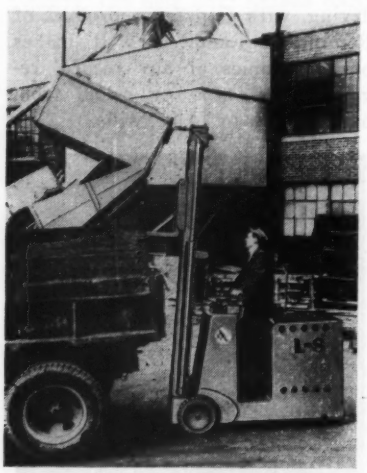
Roto-Arm Clamp, a new development in fork truck accessories, has been marketed by Transitier Truck Co. The unit can be converted from clamp to fork in less than 15 sec, for use with or without pallet.



Circle 22 on Readers' Service Card

Trap Door Bins

Lewis-Shepard is producing all steel Master Bins with trap door bottoms. Manufactured to nestle for tiering, the bins are easily handled by fork truck. At any desired height a hook on top of the mast is engaged. As forks are lowered



over dumping spot, the bottom of the box opens while hooks hold the rest of the box in position.

Circle 23 on Readers' Service Card

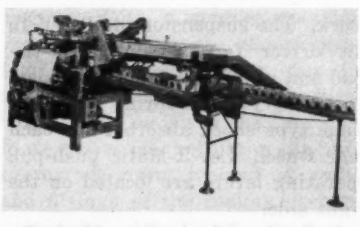
Automatic Sprinkler

A new automatic sprinkler, utilizing a solid organic chemical as its fusible element, has been marketed by Globe Automatic Sprinkler Co. The new sprinkler opens much closer to its rated temperature than is customary. Because of the solid chemical, different compounds can be produced, each with a definite unchanging fusing temperature. It is adaptable with six ratings.

Circle 24 on Readers' Service Card

Bundle Wrapper

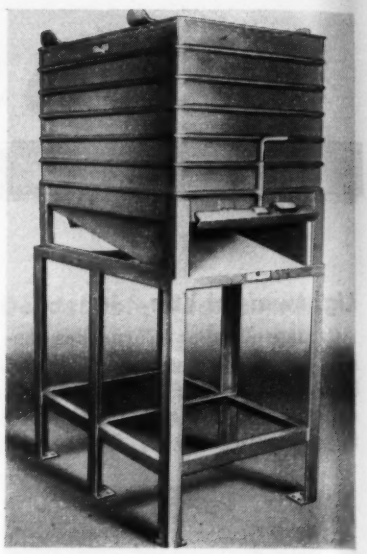
Hayssen Mfg. Co. announces a new Automatic Accumulator and Bundle Wrapper Machine. The machine automatically accumulates a multiple number of packages and wraps them in an easily handled kraft paper bundle. Conveyor can be installed with the accumulator.



Circle 25 on Readers' Service Card

Drop Bottom Box

Faster and more efficient production in machining or processing small parts is promised by Karl A. Herman Co. with the new Drop Bottom Box. The box puts parts being handled at waist-high level.

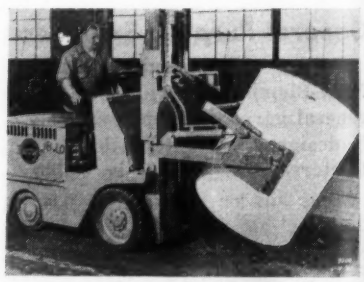


When not in use, the hinged bottom locks securely in place. Once in position a turn of the handle releases the bottom and parts flow slowly down into position.

Circle 26 on Readers' Service Card

Detachable Roll Clamp

A detachable roll clamp attachment for fork trucks, designed to pick up and stack cylindrical objects horizontally or vertically has



been developed by Baker-Raulang Co. The clamp allows truck operators to pick up paper, pipe, drums or other cylindrical objects from 1½ to 3 ft in diameter. It rotates 90 deg in a vertical plane and clamping pressure is controlled by an adjustable relief valve in the hydraulic system.

Circle 27 on Readers' Service Card

Plug-In Trolleyphone

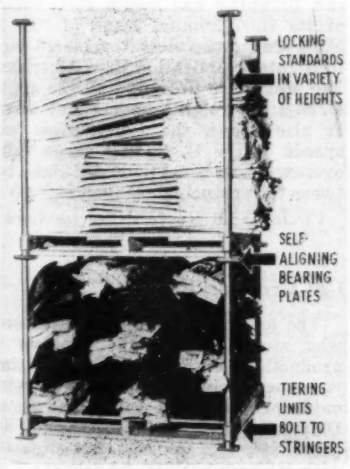
Farmers Engineering and Mfg. Co. has introduced the Femco Trolleyphone, plug-in model, series 2550. A common communications system, each station is equipped

with a press-to-talk microphone and a clear speaker with automatic volume control. Words spoken with any microphone come out of all speakers at natural voice level regardless of distance. Equipment consists of transreceiver units which incorporate both transmitters and receivers, speakers and microphones.

Circle 28 on Readers' Service Card

Pallet Stacker

The Dubl-Duty Pallet Stacker Conversion kit has been introduced by Elizabeth Iron Works, Inc. With the kit, any standard wood pallet can be changed into a tiering pallet for safe storage or crushable, fragile or irregular shaped merchandise. Each kit contains four tiering attachments and stand-

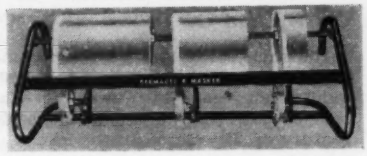


ards, nuts and bolts. Attachments fit into the ends of pallet stringer.

Circle 29 on Readers' Service Card

Adjustable Masker

A new Permacel No. 8 Universal Masker, fully adjustable wall-or-bench type masking aid which can accommodate up to 36 in. width paper in a single roll or several combinations in smaller widths, has been made available by Industrial Tape Corp. Made of steel tubing, it can be used horizontally or



vertically and cutter bar, feeder tape reels and the paper itself are fully adjustable.

Circle 30 on Readers' Service Card

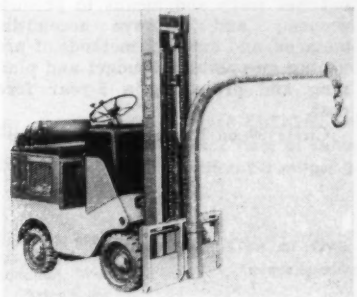
Five-Part Conveyor Unit

The Standard Conveyor Co. announces its Handidrive "1000" conveyor unit, designed to provide 2½ times the capacity of the company's "400" model unit of 1947. The unit will handle a 1,000-lb belt pull ora 15,000-lb total load on a belt conveyor 150 ft long. Precision bearings are used at drive and take-up shafts to reduce friction. The new model is designed to provide a larger field of application for longer conveyors carrying greater loads.

Circle 31 on Readers' Service Card

Crane Arm

New efficiency in handling cumbersome loads is realized with the

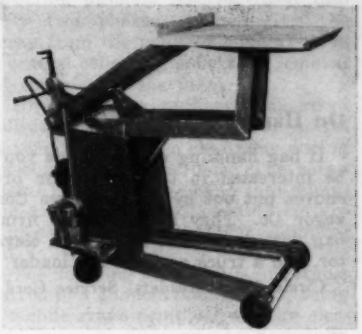


Crane Arm, a standard accessory developed by Towmotor Corp. Readily interchangeable with Towmotor forks, the Crane Arm expedites plant-wide movement of heavy engines, castings, dies, long bars and similar bulky materials.

Circle 32 on Readers' Service Card

Maneuverable Truck

Ginsberg Machine Co. is distributing the Newton Hydratruck, a light and easily maneuverable lift truck that will raise or lower loads of one-half ton up to 5 ft in less

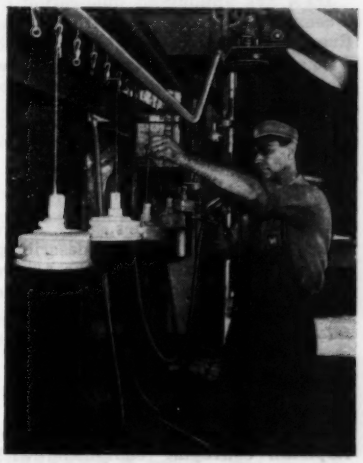


than a minute. Units are equipped with either hydraulic power pump or hand pump or both. A ¾ hp motor is required to operate the hydraulic pump. With a maximum load limit of 1120 lb, the Hydralift has a 2 ft, 6 in. square platform.

Circle 33 on Readers' Service Card

Improved Conveyor

US Spring and Bumper Co. announces a new improved Chainveyor, a light capacity, power driven, overhead chain conveyor. Complicated and fast wearing parts have been eliminated. Short radius curves and track sections are easily combined so that changes or additions can be made in a fraction of the time customarily re-



quired. The Chainveyor handles loads up to 30 lb on each pendant spaced at 6-in. intervals, or 60 lb loads at 12-in. intervals.

Circle 34 on Readers' Service Card

FREE Literature

On Handling Bags

If bag handling is your trade you'll be interested in two new color brochures put out by Power-Curve Conveyor Co. They illustrate the firm's bag flattener, pallet loader and elevator, and a truck and box car loader.

Circle 50 on Readers' Service Card

Facts of Air Shipping

For those who are confused by the hodge podge of information on air shipping, Air Express has prepared a folder describing speed, rates, coverage, frequency and special features of their service.

Circle 51 on Readers' Service Card

Portable Cutting Tools

Manco Mfg. Co. has issued a new catalog on portable cutting tools. It features hand-operated units ranging from lightweight hand cutters to high capacity bolt cutters; an assortment of tools useful in cutting steel rod, wire, fencing, strapping and a variety of other materials.

Circle 52 on Readers' Service Card

Locomotive Analysis

DTA has announced publication of a comprehensive study on US locomotives. Prepared by DTA's Railroad Transport Division, the study was made to develop requirement, production and amortization goals.

Circle 53 on Readers' Service Card

Bodies and Hoists

Gar Wood Industries, Inc., have issued a new bulletin describing trailer hoists and bodies. The 4-page release illustrates both the cam and roller and the telescopic hoists.

Circle 54 on Readers' Service Card

Conveyor Catalog

A newly revised 28-page catalog of Rapistan conveying equipment with photos, drawings and specifications of an enlarged line of power and gravity conveyors, hand trucks and industrial casters has been published by Rapids-Standard Co.

Circle 55 on Readers' Service Card

Get Up and Go

It's the get up and go that counts in lift equipment, according to a new publication issued by Towmotor. The booklet outlines the important basic feature of Towmotor lift trucks.

Circle 56 on Readers' Service Card

Good News for Shippers

Branch Motor Express has made available its new 1952 Routing Directory, in completely restyled version. The directory includes pertinent information on direct-line point served by Branch and gives added information on joint-line service.

Circle 57 on Readers' Service Card

Hydraulic Tables

For metal handling concerns, the Raymond Corp. has issued a bulletin describing its hydraulic strip and sheet feeding tables. It tells how the tables simplify work, reduce fatigue, increase production, cut handling costs and eliminate hazards.

Circle 58 on Readers' Service Card

Lesson in Accounting

"Forecasting Financial Requirements for the Motor Carrier," a new booklet published by American Trucking Associations, Inc., should prove an invaluable aid to the industry. It outlines ways and means to promote economy and improve accounting methods, and explains methods of preparing an operating budget and planning and projecting a 5-year forecast.

Circle 59 on Readers' Service Card

FILMS

Automotive Safety

Three additional films on driver safety are now in production under the sponsorship of the National Association of Automotive Insurance Cos. The films are on Driver Courtesy, Driving Safely at Night and Procedures in an Emergency.

Circle 80 on Readers' Service Card

Utility Cable Vise

The costly and time consuming process involving the use of hand ratchets, cables and ropes in tieing down heavy and bulky machinery is eliminated by use of a new cable vise, according to claims in a bulletin prepared by the manufacturer, C. A. Scheirer.

Circle 60 on Readers' Service Card

Report from the Field

Rapids-Standard Co. has gone into the field again to report details on practical applications of their Rapistan conveying equipment. The latest case studies cover conveyor use in fabricating metal products and in a wholesale paint and varnish house.

Circle 61 on Readers' Service Card

Inside Atlanta

The Industrial Bureau of the Atlanta Chamber of Commerce offers a booklet outlining the growth and development in the Atlanta, Ga., area, "Facts and Figures About Atlanta."

Circle 62 on Readers' Service Card

Shipping in a Nutshell

The National Federation of American Shipping has begun distribution of its third annual issue of "U. S. Flag Cargo Services." The 16-page illustrated publication lists American-flag steamship lines and all the major U. S. and foreign seaports they serve. It also shows the types, sizes and speeds of the U. S. flag cargo ships operated, and a table of distances between all principal seaports.

Circle 63 on Readers' Service Card

Got Growing Pains?

The expanding small manufacturer who stumbles over the problem of production control for the first time is experiencing industrial growing pains of the worst sort. The Small Defense Plants Administration has taken steps to remedy the situation with its new booklet, "Adequate Production Control."

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. . . Scrap Handling

(Continued from Page 35)

pulled away by tractor-trains. This would eliminate the manual hopper-loading operation, because the roll-away containers could be taken directly to the final scrap storage bins at the point of removal.

Another suggestion was the use of dumping buckets at the point of generation; these buckets would be picked-up and taken directly to the final storage bins. An objection to this suggestion was the great distance of travel from the farthest point of generation to the final storage area.

An overhead conveyor system also was discussed, but the great distances involved, plus the problem of continuous loading, eliminated this as a practical solution.

Some Other Suggestions

Two other suggestions to eliminate loading at the point of generation were:

1. The installation of containers which would permit the scrap to fall directly into them. In the cases of power shears or punch presses, for example, the containers would be located adjacent to and flush with the table or bed of these machines. An objection to this suggestion was the variable heights that would be required of the containers.

2. The use of built-in, automatic conveyors, especially for small scrap, such as cut-outs or residue cuttings.

In conclusion, because of the low return for the scrap, it was decided that:

a. Probably the best plan of all would be to call in a scrap dealer and arrange to have him handle the removal of scrap at the points of accumulation, rather than at the final storage. This would obviate the need for special equipment and the extra man-hours required for the final handling operation.

b. Further investigation as to reduced scrap handling possibilities at the point of generation was recommended as the most promising area of cost reduction.

COLLECTION & REMOVAL PROBLEM:—Presented by L. L. Poe, Supervisor, Production Control; The Falk Corp., Milwaukee, Wis.

THIS company's job-shop operations revolve around the use of machine tools in the turret lathe and boring bar class. Metal chips and turnings resulting from these operations constitute the bulk of the scrap to be handled.

While there are various alloys involved, the total quantity to be handled is not sufficient to warrant segregation. Thus, the company's scrap handling problem resolves itself into only two phases: transferring the scrap from the point of generation to a central collecting point and, removal of scrap from the plant.

Under the present system, scrap collecting over two nine-hour shifts is removed from the chip pans during off-hours or lull periods. The scrap metal is shoveled by hand into dumping containers and the containers are transferred to an outdoor dumping pit.

The dumping pit contents are transferred to a gondola once a week, using a mobile crane equipped with an electric magnet. This weekly accumulation rarely exceeds one carload (approximately 30 tons).

The question presented to the conferees was, "What method can we employ to more effectively transfer the weekly accumulation of mixed scrap to a scrap dealer."

CLINIC'S SOLUTION:—One manufacturer suggested the use of drop-bottom or roll-over type hoppers to be manually loaded from the chip

(*Please Turn Page*)

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. . . Scrap Handling

(Continued from Page 53)

pans and transferred by fork truck to the gondola for direct loading. In addition, it was proposed that scrap be accumulated in the self-dumping containers during the first three days of each week. Actual loading operations would take place during the last two days of each week when the gondola car is demurrage-free.

This would eliminate the necessity of a dumping pit for a central collecting station. However, not only would additional equipment be required, but a sizable storage area would have to be set aside to accommodate the three-day accumulation of loaded self-dumping hoppers.

The participants also mentioned that utilizing various attachments available for installation on standard fork trucks, scrap metal from the point of generation could be transferred to either a central collecting station or directly to the gondola.

It was the consensus that when daily scrap accumulation does not exceed 30 tons, daily removal is advisable. When the accumulated scrap is more than 30 tons, storage and periodic shipment by gondola is preferable.

Further Suggestions

Another suggestion involved the installation of a conveyor system to take chips and turnings from the machines to a local collection point. It was stated that more than 40 types of conveyors are available for as many different types of machines. One participant claimed that installations of this type eliminate downtime required for scrap removal, thereby increasing machine running time (and production) 15 to 20 per cent.

When the quantity of scrap is such that accumulation is desirable, a central collecting point is dictated. The conference participants felt that the demountable truck body is the most effective type of collecting equipment. For this particular plant, it was decided that a 10-cu yd container would be sufficient.

Such equipment is the property of this plant's scrap dealer and represents a minimum investment on the part of the disposer. These containers may be located wherever there are suitable approaches prepared for the equipment accumulating scrap from the point of generation. The scrap dealer removes the filled containers and immediately substitutes an empty one. For the disposer, there remains only a selection of the most effective means of delivering scrap to the demountable truck body.

As a result of the panel discussion, this particular firm decided that it should not store scrap for weekly removal in a gondola. It was felt that subject to some minor additional investigations, a system involving demountable truck bodies could be installed. This would require daily removal of accumulated scrap by the scrap dealer and eliminate the necessity of dumping-pit and gondola operations. At the same time, the crane mounted electric magnet could be released for effective duty elsewhere in the plant.

SCRAP BALING PROBLEM:—Presented by W. J. Dernberger, Supervisor, Materials Handling Engineering; Ford Motor Co., Dearborn, Mich., Metal Stamping Division.

THIS company represents a large stamping plant in which it is necessary to maintain a flow of sheet metal scrap and offal from the press lines to the balers in a continuous and uninterrupted flow. The press

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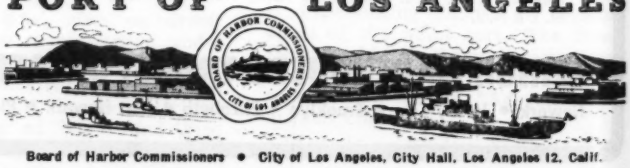
PORT OF LOS ANGELES



Board of Harbor Commissioners • City of Los Angeles, City Hall, Los Angeles 12, Calif.

Circle No. 116 on Card, Page 51, for more information

shop now produces about 800 tons of scrap a day on 18 press lines. The major part of the problem is to keep balers operating continuously and at the same time make sure that scrap is removed from the presses so as to maintain production.

There are some secondary considerations that influence this problem. First of all, the nature of the scrap varies, and even though it is cut in the press dies this has an effect upon the loading of balers, sometimes producing under weight. Specifically, it is necessary to supply enough material, regardless of size, to produce bales weighing 1200 lb each.

At the present time scrap is being accumulated in castered bin containers designed for fork truck operation, revolvator dumping being employed. Containers are pushed onto a floor level platform with bin-box hold-down. The platform is revolved to dump the contents onto a wide steel belt conveyor. The conveyor raises the scrap 10 ft in 30 ft and pours the scrap into the baler opening.

The installation comprises two platform dumps with individual steel belt conveyors and balers.

The basic problem is to develop a method having the proper arrangement for pre-dumping by fork-truck revolvator into a supplemental hopper ahead of the baler or some alternate method that would be an improvement over the present system. Essentially, the means devised must assure a sufficient supply ahead of the balers to maintain their continuous operation and to produce 1200 lb bales.

In addition, they have two handlers at each baler and there would be a decided advantage in any new method that would reduce the number of operators involved.

CLINIC'S SOLUTION:—There was considerable discussion of various solutions, including the use of conveyor systems throughout; the possibility of using supplementary containers; and other ideas designed to effect smoother flow of the charge to the balers.

One of the many ideas under discussion, was summarized as follows: It was pointed out that problems of building construction rule out some of the proposed solutions. Essentially, it is a matter of leaving the layout unchanged but correcting the situation at the discharge end of the present conveyor. To one delegate's way of thinking, the solution lies in some form of batch-type loading to maintain the proper weight of scrap by providing a suitable number of supplementary hoppers ahead of the balers to assure a continuity of scrap flow. The dumping of scrap into the hoppers would be accomplished by fork trucks with revolvator.

(*Please Turn Page*)

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. . . Scrap Handling

(Continued from Page 55)

The preferable solution is a combination of two major elements. It would involve the installation of some suitable weighing-scale hopper which would assure a standard-weight load for each charging cycle. This would be used in combination with the present servicing conveyor, where fork trucks dump directly onto the conveyor.

SEGREGATION & BIN PROBLEM:— Presented by Lloyd Olsen, Ass't Supt., Rockford Drop Forge Co., Rockford, Ill.

THIS company has already experimented with two methods for transferring its forging scrap — which must be segregated—from the shop into the gondola cars. Approximately 1½ cars of scrap must be handled daily. In their earliest method: scrap was hauled from the forge shop to scrap bins in the yard using an electric truck and large dump boxes. The scrap was placed in a designated bin and accumulated until a carload lot had piled up. At that time, the scrap was forked by hand onto a belt conveyor, and conveyed into the car. Scrap removed some distance from the conveyor was hauled to the conveyor in a wheelbarrow. This method was abandoned when a worker on the job suffered injuries, due to the strain of this heavy work.

The second system, now in use, is the same as the initial system up to the point where scrap is to be taken from the bins and put into gondolas. Now, they use a mobile crane equipped with a magnet, to lift the scrap from its particular bin into the car. With this method, however, the magnet is damaging the concrete walls of the bins, despite the careful efforts of the crane operator. The walls have been broken down to such an extent that it is now difficult to keep the scrap segregated.

CLINIC'S SOLUTION:—Several suggestions were offered by the group. It was proved that segregation of scrap would be advisable from an economical viewpoint. Also, it has been found that the scrap is bulky, not necessarily heavy.

It was suggested that perhaps a magnet-equipped overhead crane might be used. (The crane would extend over the bins and the railroad tracks.) The questioning delegate replied that this system had been considered, since they felt that with this system the load is under better control and would result in less damage to the walls. However, this system was discarded as too expensive.

It was suggested that the bins be elevated, equipped with drop bottoms, so that the cars could be run underneath and loaded. During the discussion it was pointed out that although this would solve one problem, it would create another—that of loading the elevated bins. This suggestion too, was considered excessively expensive. The use of demountable truck bodies was considered. The truck bodies could be loaded by the fork trucks which bring the scrap from the forge shop. With this method, dealers might pay less for scrap in such small (8 to 10 cu yd) lots, than they

We Take The Time To Save You Trouble

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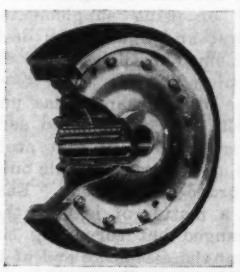

DARNELL CORPORATION, LTD.
DOWNEY, (Los Angeles County) CALIF.

60 Walker Street, New York 13, N.Y.
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would for carload lots. But, it was claimed, handling costs might balance this minor loss.

The question was asked: is it not possible to load the gondolas directly —have the fork trucks dump directly into the gondola without the intermediate storage in the bins? It was pointed out that this would require a number of gondolas on hand at all times—which is not possible.

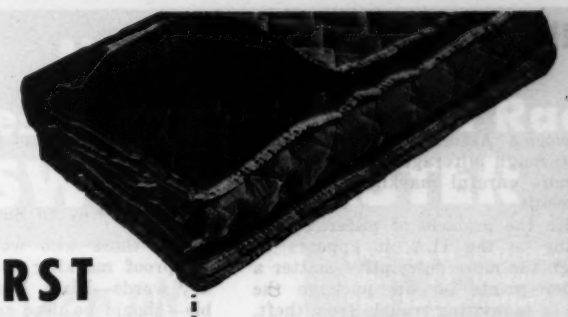
Next the use of mechanical loaders was discussed. These units could load from the bins without damaging the walls. After some discussion of loading difficulties—filling the middle of the car, etc.—it was agreed that this was a possible solution. A long discussion on the possibility of using scrap storage boxes followed. In this method, the scrap would be accumulated in the shop in a scrap box, the box carried by fork truck to the scrap storage area, and stored there in the boxes. Then, when a sufficient amount to fill a car had accumulated, the boxes would be dumped into the car by the fork truck equipped with revolvator. This would eliminate the necessity for a sturdy wall and require only a light fence to divide the area. It was pointed out that with this method, a good many boxes would have to be purchased, since in some cases, boxes of a particular kind of scrap might have to wait for weeks to be dumped (until a carload lot had accumulated). A discussion on whether the gondolas could be loaded evenly with this method followed—it was made clear that they could, and that this method is standard practice in industry.

A modification of this system was suggested; that scrap be collected and stored in drop bottom boxes; dumped into the gondola from these boxes. Next the use of an orange-peel bucket instead of the magnet was mentioned. This was discarded as not having advantages over the magnet.

The delegate mentioned that they had considered using the present system, but replacing the concrete walls with a more flexible wall, constructed of rails and three in. boards. This method, it was generally agreed, would not solve the problem, but rather put it in the category of a continuing maintenance problem. The delegate was asked if it would not be possible to enlarge the bins, giving the crane operator more room in which to operate. This was not possible.

In the final summary, the use of scrap boxes, in which the scrap could be collected in the shop and stored in the yard—and therefore eliminating walls in the yard—seemed to get the most favorable comment. It was suggested that the delegate make a cost comparison between continuing rebuilding of the walls and the investment in storage boxes. •

(Resume Reading on Page 35)



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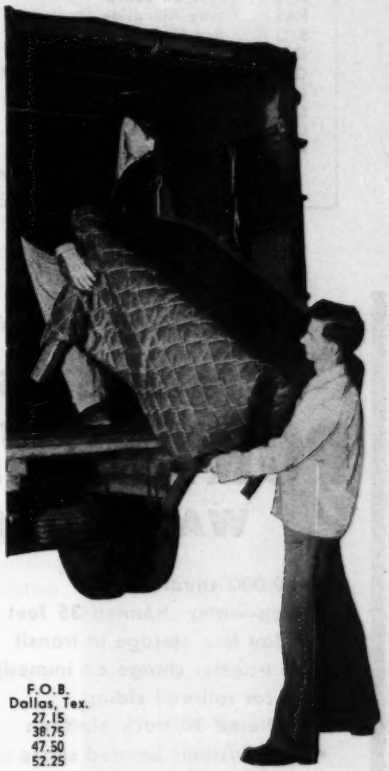
Dandux quality furniture pads are first choice with van lines, warehousemen and stores. They protect longer because of the many Dandux "firsts". First for quality, first for economy, and first with all these protection features:

- Lockstitching . . . for rugged service.
- Sewn with interlocking diamond to prevent wadding or bunching.
- Heavy covering protects longer.
- Two colors . . . one on each side.
- Nylon binding . . . holds longer.
- All corners bar-tacked.



Cut Size	F.O.B. Daniels, Md.	F.O.B. Dallas, Tex.
36"x72"	25.25	27.15
54"x72"	35.75	38.75
72"x72"	43.75	47.50
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Milwaukee • Chicago • New York • St. Louis • Charlotte

Prices subject to change without notice

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LOST: $30 Million . . .

(Continued from Page 23)

shoremen's Association advises that loss through pilferage can be reduced by more careful marking of export shipments.

With the problem of pilferage, according to the ILA, it appears as though the more descriptive matter a shipper prints on his package the more he is inviting trouble from theft. The ILA suggests that there are satisfactory ways to get identification of the product across without putting an overabundance of identification on the container.

Key to Success

For those who would establish a foolproof marking system, the three key words—**Plain, Durable** and **Legible**—should be used to open the door to success.

Markings should be large enough to be conspicuous, and, in the case of small containers, as large as the package will allow. Oil board in good condition and distinctive cut-outs are important when stencils are used. Free-hand addressing should be done in a plain, firm hand, preferably printed, using acceptable alphabet style and avoiding fancy lettering.

No mistake about this destination—careful marking is top insurance against lost shipments

Old Markings

All old addresses and other markings should be completely obliterated. Marking inks, crayons, pencils, paint and similar material should be quick drying, wear-proof, smear-proof and waterproof.

Abbreviations Used in Shipping

B/L	Bill of Lading	Wt	Weight
F/B	Freight Bill	NSTD	Nested
W/B	Way Bill	BBL	Barrel
FOB	Free on Board	BU	Bushel
FAS	Free Alongside Steamer	PKG	Package
B/O	Bad Order Notation	MDSE	Merchandise
CAF	Cost and Freight	VOL	Volume
CIF	Cost, Insurance and Freight	SU	Set Up
LCL	Less than Carload	KD	Knocked Down
LTL	Less than Truckload	BXS	Boxes
COD	Cash on Delivery	CTNS	Cartons
Min Wt	Minimum Weight	CRTS	Crates

NOIBN Not Otherwise Indexed by Number

Water terminus for Eastern distribution

LEHIGH'S

PORT NEWARK

WAREHOUSE

- 200,000 square feet
- Deep-water channel: 35 feet
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- No transfer charge on immediate storage
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- Sheltered 30-truck platform
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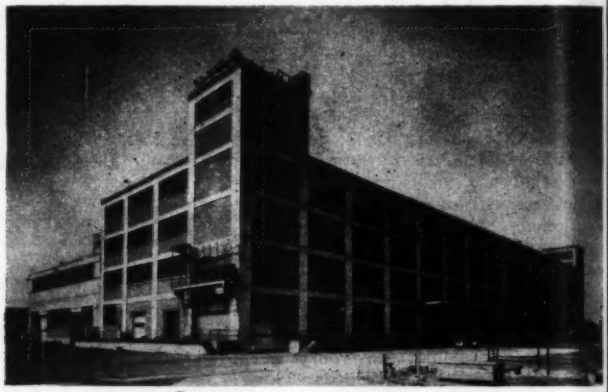
- Two 25-ton cranes
- Modern materials handling equipment

Located foot of Doremus Avenue, Newark. Ideal for consolidation and redistribution of canned goods. Served by P.R.R. and C.N.J. and Lehigh Valley through absorption of P.R.R. switching charges. Completely fireproof. Watchman ADT supervised. Contents insurance: $0.32. Member: AWA, N. J. Motor Truck Assn., Warehouse Assn. N. Y. & N. J.



DISTRIBUTION: Full Lehigh distribution service, with 43-truck fleet of Lehigh Transportation Company. Anywhere within 50 miles: 24 hours. Only 48 hours for 200 miles.

One of five Lehigh warehouses serving metropolitan New York/New Jersey

LEHIGH WAREHOUSE & TRANSPORTATION CO.

Newark • Jersey City • Brooklyn • Elizabeth • Port Newark • Richmond, Va.

Lehigh Lackawanna WAREHOUSES & DISTRIBUTION

Reliable equipment, like this Ideal machine, is good will investment and sound economy

Stencil Versatility

Systems of marking and the actual tools depend largely upon the size and type of package involved. Stenciling is the most widely used and versatile of all methods. However, tags, labels, pens, pencils, brushes and in some instances mechanical improvements, such as dies, stamps and rotaries have been used with varying success.

Careful application and proper maintenance of tools and materials are of vital importance. Stencil cutting machines clean and in good working order, high quality oil board and ink, top grade brushes that are well groomed, clean writing tips on pens and pencils, and frequently cleaned and oiled mechanical devices are an absolute must.

False Economy

There are literally hundreds of good marking implements on the market. Cheap equipment and a "make-what-you-have-do" policy is false economy. One lost customer through inadequate marking could have kept your marking table stocked with the best of material and equipment for years to come.

As in the purchase of heavier and more expensive production machinery, reliable manufacturers of marking equipment are more than pleased to furnish instructions for proper use, maintenance and installation of their products.

Despite its obvious importance in the distribution cycle, package marking, in many instances, has earned the reputation as an industrial stepchild. The tremendous annual freight loss figure cited should prompt errant management, industrial and carrier, to take corrective action—but fast.•

(Resume Reading on Page 24)

NEW Fairbanks
Series "23" Double Ball Race
SWIVEL CASTER

The NEW Fairbanks Series "23" Double Ball Race Swivel Caster* line is designed for greater load carrying capacity in the medium duty field.

STRONGER ON EVERY POINT

1 **NO KING-PIN** the No. 1 weak spot of ordinary casters. It's eliminated!

2 **"LOCK-WELD" CONSTRUCTION** Instead of being a separate piece, projection welding makes lower raceway integral with top plate. Retains perfect alignment!

3 **PATENTED LEG DESIGN** disperses shocks and overloads over a larger segment of raceways. Resists distortion. Lasts longer!

4 **LARGER SECONDARY RACEWAY AND BALLS** provide tremendously increased swiveling efficiency and greater shock absorption of overloads. Easier working!

5 **COINED RACEWAYS** insure smoother operation through extra hardness. Improve with use!

6 **PRESSURE LUBRICATION** by Zerk Fittings reduces friction and wear!

*PATENTED

Rigid Casters, Series [illegible] in matching heights

THE Fairbanks COMPANY
393 LAFAYETTE STREET • NEW YORK 3, N. Y.
Branches: New York 3 • Pittsburgh 22 • Boston 10 • Rome, Ga.

TRUCKS • VALVES • DART & PIC UNIONS • CASTERS

. . . Renegotiation Pitfalls

(Continued from Page 25)

Company Analysis

The company must prepare an analysis which will permit the Board to make a competent determination fair both to the Government and the contractor. The current Military Renegotiation Regulations read as follows:

"In general, reasonable profits should be determined by over-all evaluation of the particular factors present without limitation or restriction by any fixed formula with respect to rate of profit, or otherwise. Renegotiation proceedings should not result in a profit based on the principle of a percentage of cost. Contractors who sell at lower prices and produce at lower costs through good management, improved methods of production, close control of expenditures, and careful purchasing will receive a more favorable determination than those who do not. Such favorable or unfavorable determination will be reflected in the profits allowed to be retained by the contractor or sub-contractor as non-excessive. Claims of a contractor for favorable consideration must be supported by established facts, analyses, and appropriate comparisons."

Seven Factors

The factors to which the Board is required to give consideration under the law in analyzing profits are as follows:

1. Efficiency of the contractor with particular regard to attainment of quantity and quality production, reduction of costs, and economy in the use of materials, facilities and manpower.

2. Reasonableness of costs and profits, with particular regard to volume of production, normal earnings, and comparison of war and peacetime products.

3. Reasonableness of return on net worth with particular regard to the amount and source of public and private capital employed.

4. Extent of risk assumed, including the risk incident to reasonable pricing policies.

5. Nature and extent of contribution to the defense effort, including inventive and development contribution and cooperation with the Government and other contractors in supplying technical assistance.

6. Character of business, including source and nature of materials, complexity of manufacturing techniques, character and extent of subcontracting and rates of turnover.

Public Interest

7. Such other factors as the consideration of the public interest and fair and equitable dealings may require, which factors shall be published in the regulations of the Board from time to time as adopted.

The final determination as to the profit which the contractor is permitted to retain will be based upon the data submitted by him on the above factors.

Salesmanship Essential

Special emphasis must be placed on the importance of salesmanship in the preparation and the presentation of a renegotiation report. Salesmanship can mean the difference between the Government proving excessive profits and a company proving it has made efficient profits, since the written report represents to the Renegotiation Board the interpretation the management has placed on

For RUGGED, HEAVY DUTY, HIGH SPEED SERVICE...
HAND TRUCKS
PLATFORM TRUCKS
TRAILERS
LIFT JACK SYSTEMS
BARROWS
Since 1881
LANCO INDUSTRIAL TRAILERS
The Lanco 895 Industrial Trailer illustrated combines rugged construction with modern design and quality materials. Highly maneuverable, it has improved casters permitting high speed operation. An economical, efficient unit with a low original cost. Lanco standard or custom built trailers will give you efficient service — write today for details on units to meet your requirements.
LANSING CO.
LANCO MATERIAL HANDLING EQUIPMENT
LANSING, MICHIGAN

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SPEED?...SAFETY?...SAVINGS?
THEY'RE YOURS WITH A
LO-HED CAR PULLER

With a Lo-Hed Car Puller at your siding, cars will be loaded and unloaded a lot faster. You'll also eliminate a cause of accidents, cut demurrage costs and abolish shifting charges . . . Lo-Hed Car Puller saves money *inside* a plant, too. Rugged, electrically-driven, it pulls anything within its capacity. Write for full facts.

LO-HED MEANS LOW OVERHEAD

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AE Products are: Taylor and Perfect Spread Stokers, Marine Deck Auxiliaries, Hydramite and Hele-Shaw Fluid Power, Lo-Hed Hoists, Lo-Hed Car Pullers.

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the activities of the company for the year under review. Many times this very important report is a rushed, haphazard compiling of figures and statements, and does not fairly present the contribution of the employes, research men and key executives.

It should never be forgotten that this renegotiation report is the most important document to be prepared by management concerning the business for the year. The report should be the finest example of salesmanship the company can produce. It must convince the Board the profits are not excessive for the entire year's efficient operation.

Report Presentation

The sales manager, advertising manager and public relations director who are daily preparing written material to sell the company's products against heavy competition are the type of men who can write an outstanding statement on the activities of the company for the past year. The report should have the benefit of all the officers thinking on each section. It is important to secure every constructive criticism tending toward an improvement in its compensation. Remember the Renegotiation Board may perform a major operation on profits of the company.

Editorial Slant

The report should be prepared on a very high editorial plane and be supported by accounting schedules, pricing information, trade magazine advertising, catalog material, and evidence to support the statements in the report as to the Defense efforts of the company.

The company has had a good year, profits are excellent, a superior report has been presented. Now who should attend the meeting with the Renegotiation Board? It is recommended that the oral presentation be made by the sales manager or public relations director. The treasurer or comptroller should be there ready to satisfy the panel on any figures or facts in the report which may be questioned and require an authoritative answer. The temperament of factual men is seldom conducive to an eloquent oral presentation.

Excess or Efficient

Management by means of the report they submit should prove that the profits of the company are not excessive. It must be clearly demonstrated that the profits are efficient dollars and any amount reclaimed would penalize an efficient operator.•

Editor's Note—Copies of "How to Protect Yourself for Renegotiation," by Kenneth G. Smith, reprinted from AUTOMOTIVE INDUSTRIES, are available on request through DISTRIBUTION AGE. Mr. Smith is considered one of the nation's leading renegotiations consultants.

(Resume Reading on Page 26)

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DISTRIBUTION DILEMMAS... and how to solve them!

Put Consolidated on your team for: POOL CAR DISTRIBUTION, WAREHOUSING, LOCAL CARTAGE and MOTOR FREIGHT services at 53 important Western distribution points:

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Bend, Ore.	Fargo, N. D.	La Grande, Ore.	Portland, Ore.	Sunnyside, Wash.
Billings, Mont.	Glendive, Mont.	Lewiston, Idaho	Redmond, Ore.	Tacoma, Wash.
Bismarck, N. D.	Grants Pass, Ore.	Lewistown, Mont.	Rice Lake, Wis.	The Dalles, Ore.
Boise, Idaho	Great Falls, Mont.	Medford, Ore.	Roseburg, Ore.	Toppenish, Wash.
Bozeman, Mont.	Helena, Mont.	Miles City, Mont.	Sacramento, Cal.	Twin Falls, Idaho
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Central Stations in All Principal Cities

A·D·T

Circle No. 125 on Card, Page 51, for more information

. . . Live-Roller Conveyor

(Continued from Page 33)

units of Building I., separated from each other by 1 ft 4 in. walls, with a total length of 386 ft 4 in. and a width of 48 ft. Columns 9 in. square are placed on 7 ft centers lengthwise and 12 ft centers crosswise in the rooms.

On the second floor, workers were assembling parts of builders' hardware into finished products. The parts were brought to the floor via an elevator and placed in temporary storage, and from this stock, they were delivered to workers as needed.

The finished articles were dispatched on skids to the shipping department on the floor below by means of a second elevator. Four and sometimes five hand truckers were required for this activity and there were frequent delays at the elevator, resulting in much lost time and a very spasmodic flow to the shipping crew.

Now, Four-Unit Conveyor

We found the solution to this problem through the installation of a specially developed conveyor system made up of four elementary units—a live-roller conveyor running along the outside wall the full length of the department, and then a section of 90 deg tapered roller gravity which feeds to a belt conveyor.

This latter unit carries the packages safely down through the floor to the shipping area where it is met by a line of roller gravity running overhead across the room and then down along the opposite wall of the first floor.

Unique Features

A number of problems had to be solved. Engineers of Island Equipment Corp. worked closely with us in developing some unique features. The live-roller conveyor is the longest of its kind in the world driven by a single power unit—in this case a 5 h.p. gearhead motor.

The live rollers "float"; that is, they are mounted in vertical slots so that they barely touch the belt except where a package is passing over a given roller, when pressure contact is made. This feature reduces the power requirements to a minimum. Speed is 45 ft per minute and the maximum load is 20 lb per foot.

750 Ft. Long Belt

The five-ply stitched canvas belt itself is 10 in. wide and 750 ft long. There are wide variations in temperature and humidity in the particular rooms through which it runs so that the problem of take-up was an important factor. A specially designed automatic weighted take-up with guide rails which project down through the floor allows for the widest possible fluctuations in the length of this uniquely long belt.

As to the results we have secured: (1) All manual truck operations in connection with handling these particular finished parts from assembly to shipping have now been eliminated, and (2) congestion in the aisles has been relieved so that they are freed for the movement of parts.

Use Two Elevators

Furthermore, two elevators, instead of one, have been made available for this later purpose.

We feel that we have found the most practical solution to the problem of efficient handling in buildings of our particular type and hope that our experience may be useful to others producing in similarly constructed plants. ●

(Resume Reading on Page 34)

Circle 126 on Readers' Service Card

Here's why

• Full capacity bodies

When you buy a Lane basket you get a full capacity body—not one or more bushels shy. Look at your own baskets and see if the body goes down to the bottom frame. If they don't, chances are you're not getting what you paid for.

With a Lane basket you get full depth body—gain extra support from bottom frame—eliminate undue strain or pulling out of binding rivets.

Investigate Lane baskets, hampers and trucks today and see for yourself why Lane is the standard of quality.

WRITE for bulletin.

Lane TRADE MARK

W. T. LANE & BROS., INC.
Poughkeepsie, New York

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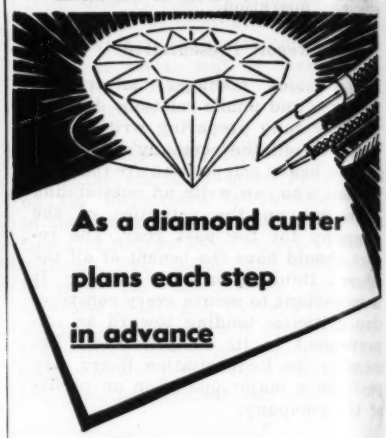


As a diamond cutter plans each step in advance

United VAN LINES agents PRE-PLAN every move

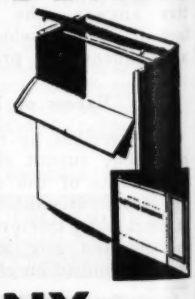
Your nearby United mover is listed in the Classified Phone Book . . . or write United Van Lines Inc., St. Louis 17, Missouri.

SUPERIOR IN EVERY DETAIL

This Collapsible Wood Cleated Patented

No. 3 WARDROBE CONTAINER

Sturdily built of kiln-dried smooth lumber glued to 100% Kraft double face corrugated panels—Is the strongest wardrobe available. Air and dust-tight. Large capacity. 22" x 30" x 55" inside dim. Holds a closet full of garments securely. Top closes tight on hangers so they can Not move or fall off from sturdy hardwood dowel rod. Large door panel will permit easy loading. Unlimited strength—will hold any weight. Better Designed, it takes only 2 minutes to assemble. Knocked down, bundled, and tied.



$33.00 Per Dozen

Weight 150 lbs. Per Dozen. Net 10 Days. F.O.B. Homewood, Ill. Special Price in Pool Cars — Van Loads or Carload Lots — Phone 133

NEIL BOX COMPANY, INC.

HOMEWOOD, ILLINOIS (Chicago Suburb)

Circle No. 128 on Card, Page 51, for more information

. . . Fit Your Needs

(Continued from Page 31)

vantageous. When a unit load carried on a semi-wing type pallet is placed on top of another unit the fact that the bottom deck is narrow may cause difficulties. This is especially true if the packages in the lower unit are not rigid, because the edges of the boards may cut into them—a situation which develops in cold storage where such products as dried fruits are not always received in flush-packed containers.

It has been found necessary to insert a "separator"—actually a very low single-faced pallet with stringers which fit up into the open space under the wings of the upper pallet—in order to provide a flush surface over the bottom tier of merchandise. The use of such a separator is, of course, an additional expense and besides the nuisance, the time required to put it in position is considerable. It is highly advisable, therefore, to use flush pallets wherever possible.

In the early days of palletization, the cold storage industry was one of those which found a real solution to its storing and handling problems through the use of walkies.

Pallet Dimensions

The first pallets designed for installations in these types of plants were 36 in. x 48 in. with the bottom deck 40 in. wide, which meant an overhang of four in. on each side to admit the outriggers of the walkies used in these plants.

More experience with palletized operations under such conditions indicates that it is not necessary or even advisable to use as much overhang as four in. on each side. When it is considered that the outriggers can also pass under the wings of adjacent pallets it is realized that no more than two in. of overhang is necessary and on this account, where semi-wing type pallets are now being used, the bottom deck is being specified as 44 in. wide, thus permitting two-in. wings on each side. And, indeed, in some instance flush type pallets are being used very successfully.

(*Please Turn to Page* 67)

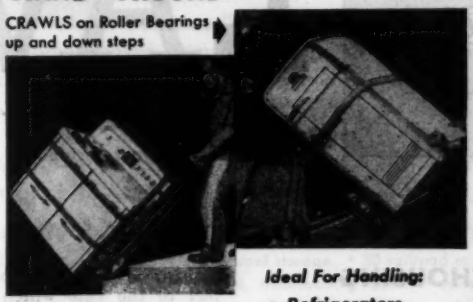
Circle No. 129 on Card, Page 51, for more information

Appliance Movers Like

Escort HAND TRUCKS

The Truck with the CRAWLER TREAD

CRAWLS on Roller Bearings up and down steps



Everybody likes this

APPLIANCE TRUCK!

The ideal truck for every purpose! No lifting . . . no fatigue . . . carries a full load safely up and down stairs and crawls over obstructions. Your men will appreciate the Escort truck.

Ideal For Handling:

- Refrigerators
- Water Heaters
- Gas and Electric Ranges
- Music Machines
- Any appliance

Escort CRAWLER HAND TRUCKS

Catalog on request

STEVENS APPLIANCE TRUCK CO.

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SHIP SLICK AIRFREIGHT

the nation's largest domestic Airfreight line. Save dollars and time with Slick's low Airfreight rates, prompt pickup and delivery, and frequent daily scheduled flights across the nation.

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For a 300 lb. Shipment NEW YORK to LOS ANGELES (door-to-door)

VIA SLICK $68.70 AIRFREIGHT overnight delivery

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A CERTIFICATED SCHEDULED AIRFREIGHT CARRIER

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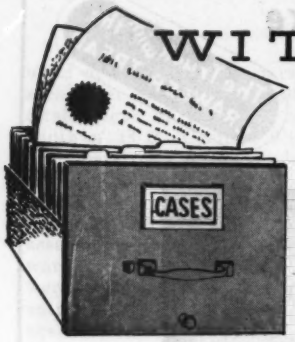

WITHIN THE LAW

By Leo T. Parker

Legal Consultant, Distribution Age

WAREHOUSING

Last month the writer traveled Indiana, Illinois, Iowa, Wisconsin, Minnesota, parts of Canada and Michigan and had the great pleasure of conversing personally with many warehousemen, common carriers and distributors of merchandise who are constant readers of my legal articles in DISTRIBUTION AGE. I found that a majority of readers are deeply interested in avoiding damage liability. In fact, they presented to me their confidential legal problems, many of which are common to all readers. Hence, in this article for the benefit of readers, I shall review a few of these interesting legal questions and give my informative opinions verified and based upon leading higher court decisions.

Common carriers can make contracts at rates lower than those set by the ICC

A reader asked this question. "Can I, a common carrier, make contracts to transport merchandise and freight in interstate commerce at rates lower than the rates established by the Interstate Commerce Commission?"

The answer is: Yes, you can make such contracts, but always you can sue and recover from the shipper the difference between the rate specified in your contract and the rate specified by the ICC.

For example, in the leading case of Louisville and National v. Central Co., 265 U. S. 59, the Supreme Court of the United States held that freight rates on interstate shipment are positively fixed by federal law, and no contract or agreement of a carrier can legally reduce the amount payable, or preclude the carrier from suing and enforcing payment of the legal full amount by the shipper.

On the other hand, it is important to know that this higher court held:

"But delivery of goods to a carrier for shipment does not, under the Interstate Commerce Act, impose upon a shipper an absolute obligation to pay the freight charges. The tariff does not provide when or by whom the payment should be made. As to these matters, the carrier and the shipper are left free to contract, subject to the rule which prohibits discrimination."

For comparison, see the late case of Mt. Tom Motor Lines, Inc. v. McKesson & Robbins, 89 N. E. (2d) 3. Here it was shown that a common carrier trucking company made a written contract with a manufacturer and distributor of drugs to transport and deliver its merchandise to retail drug stores in various nearby counties. This contract was made several years ago, and the freight rates specified in the contract were considerably lower than the rates approved by the state's Public Service Commission.

After a few years the truck company sued the manufacturer to recover a large sum of money as additional payment for the transportation and delivery of the goods. In other words, the trucking company's suit was based on the contention that the low freight rates specified in the written contract with the shipper were void because these rates were considerably less than the rates approved by the Public Service Commission.

It is interesting to observe that the higher court held that a common carrier, or trucking company, can recover from the shipper the difference between the low freight charges paid under either a verbal or written contract, and the rates specified by the Public Service Commission. The court said:

"One to whom a certificate has been granted is bound to collect and the shipper to pay the established rates for the service rendered, and neither is excused through fraud, accident, mistake or any other cause from collecting or paying the said rates."

Warehouseman is expected to give ordinary care to "ordinary" merchandise

A reader asked this question: "If the owner of stored goods fails to notify the warehouseman that the cartons or containers contain merchandise of usually high value, is the warehouseman liable for his negligence, loss or damage to the goods?"

According to a late higher court decision, the answer is no.

For instance, in Barnette v. Casey, 19 S. E. (2d) 621, it was shown certain goods were stolen from a warehouseman, a bailee. The legal question was presented to the court, whether the bailee was liable for the full value of stolen goods as the owner of the goods did not notify the bailee that the carton contained unusually valuable merchandise. Although the lower court held the bailee liable, the higher court reversed the verdict, and said:

"There is no evidence in this case that the bailee had any notice of knowledge of the property contained therein. . . . We must bear in mind that, unless in a case where bailment is created by operation of law, there must be delivery of the property for safekeeping by the bailor, and an acceptance thereof by the bailee."

The law is well settled that where a customer delivers to a warehouseman a box, for example, the law assumes that the warehouseman agrees to exercise ordinary care to safeguard ordinary merchandise which may be therein. The court will not hold the warehouseman liable although his negligence resulted in theft of the box which may contain unusually valuable merchandise not disclosed by the bailee. Also, see Pam, 150 Pa. 91.

So therefore, a warehouseman is not liable for the full value of merchandise of unusual value placed in storage by one who fails to disclose the high value of the merchandise, although the merchandise is lost or destroyed through negligence of the warehouseman.

"If warehouseman accepts goods at specified rates, can he 'up' storage rates?"

A reader asked this question: "If a warehouseman accepts goods for storage at a specified rate, can he increase the storage rates?"

The answer is: No, the warehouseman cannot increase storage rates specified in the contract originally signed by the owner of the goods. A leading higher court held that the same law is applicable where no rates are specified in the contract.

For instance, in Montgomery v. Berry, 121 S. E. 853, it was shown a warehouseman accepted goods for storage. Later the warehouseman notified the owner of the goods that the storage charges would be increased. Controversy developed over payment of the increased charges.

In subsequent litigation, the warehouseman testified that there was no agreement as to the monthly storage charges at the time when the goods were stored, nor any understanding as to the future price of storage. There was no evidence as to any established custom among warehousemen not to increase the charges on merchandise already stored, but the warehouseman contended that after having given the customer a written notice that he would increase the storage rates, he was legally entitled to receive payment on the basis of the increased charges.

The owner of the goods testified that when the goods were accepted

(*Please Turn to Page* 98)

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(Continued from Page 63)

It has been found that even with the most careful operators, there is apt to be considerable space left between pallets. As a matter of fact, this is desirable, because it is difficult to place upper tiers in too narrow openings, and if a package in a unit load should not be placed correctly it may well be knocked off or cause other damage during the tiering operation.

Using Outriggers

There is, however, one dimension of outriggers which should be taken into consideration in using this type of equipment. If a machine is selected whose outriggers are higher than the top surface of the pallet and it is necessary to pile products on the pallet in patterns which overhang the sides, trouble will develop because the wheels will rug against the bottoms or sides of the packages.

Many operators find difficulty, especially when they first start using stacker-type equipment to so position the forks under a high-tiered load that when it is lowered it will fit between the straddle arms. Some walkies come equipped with a V-shaped plate on the fork carriage which helps in centering the load by fitting around the center stringer.

If your machine does not have this simple device it will not be difficult for your maintenance department to make one and weld or bolt ito the carriage. See Figure 2.

New Type "Stacker"

Mention should be made here of a new type "stacker" which made its appearance at the last Materials Handling Show in Chicago. This machine has outrigger arms, but the fork carriage is movable in a horizontal direction. This motion is possible due to a rack and pinion arrangement—the rack on the outriggers, and the pinion under the fork carriage.

The apparent advantage of this machine is that the load can be extended forward beyond the outrigger arms so that these members never have either to run under the pallet or to straddle it. It also seems to offer advantages in aisle-space conservation. This may well be a real advance in mechanized stacker design.

Present types of walkies are offered in both non-telescopic and telescopic models and the counterbalanced types have tilting arrangements. In short, these machines have been made as versatile as their construction permits.

"Walkies" Have Limitations

It is perfectly understandable that one can be enthusiastic about the work done by walkies, but we must always bear in mind that they are limited in their application.

They were designed, not so much to take the place of conventional fork trucks, but to fill in a gap where the regular machines could not be used. We should never for-

(*Please Turn to Page* 69)

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Continued from Page 62

get that walkies are actually glorified stackers and are best used for that function.

The true walkies are not good translating machines, and their application should be limited to situations where there are only short runs. To be sure, the rider types are extending their range of usefulness in this regard and we can expect to see more of these machines appearing on the market.

As between the counter-balanced fork truck and the counter-balanced walkies, there seems to be little advantage of the latter over the former and, if space is not too serious a question, the odds are not great enough to choose a walkie when a convention truck is so much more versatile.

Just as long as there are old buildings with all their inherent limitations on mechanized handling there will be a place for walkies. They simply cannot be beaten in their ability to operate in narrow aisles and under conditions where weight is a determining factor.

We have now finished our consideration of the various types of carriers and the machines used to handle them. In the next of this series we shall consider how we select the right carrier and the right types of machines to fit given conditions.•

(Resume Reading on Page 32)

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Refrigerated Warehouse . . .

(Continued from Page 40)

skeleton of structural steel. The wall is made up of an exterior of eight-in. rough-glazed tile, eight in. of insulation and an inside finish of cement plaster over metal lath. Roof construction is reinforced pre-cast concrete tile.

Lightweight vermiculite concrete was used to provide cant strips and drainage slopes for the giant four-acre roof, as well as additional insulation. Vermiculite, furnace-expanded particles of a mica-like ore, replaces sand as aggregate in this concrete mix. For every cubic foot of concrete placed, this mix saves 100 lbs. in weight, compared with sand concrete. Roof saddles, which are up to 1.5 ft thick, if made of heavy sand concrete would have meant greatly increasing structural members to support the huge roof.

Vermiculite Slab

Vermiculite concrete also was used as a sub floor slab in the office section, to provide a warmer, more comfortable floor; and it was used as roof insulation over the tenant section, boiler room, and office section.

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In the warehouse, there are four 120-ft-square cold storage rooms in the center, six rooms 40 x 120, one room 80 x 120, and several smaller rooms. Temperatures in each room can be converted to whatever the stored product requires.

Working aisles of the warehouse are also refrigerated so that food brought in will be immediately protected and warm air will be kept from entering the freezer rooms. Vestibule doors stop warm air from coming into the corridors.

New Blast Freezers

Two blast freezers have been installed with a capacity of freezing 100,000 lb. of products daily. Provision has been made for future addition of four more blast freezers. These units are a comparatively recent development of the refrigeration industry, and an improvement over the conventional sharp freezers. The temperature not only is reduced to 30 deg F below zero, but the product also is frozen more rapidly by the high velocity movement of cold air.

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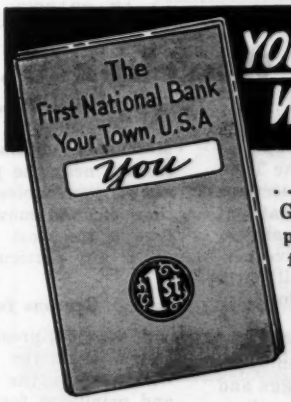

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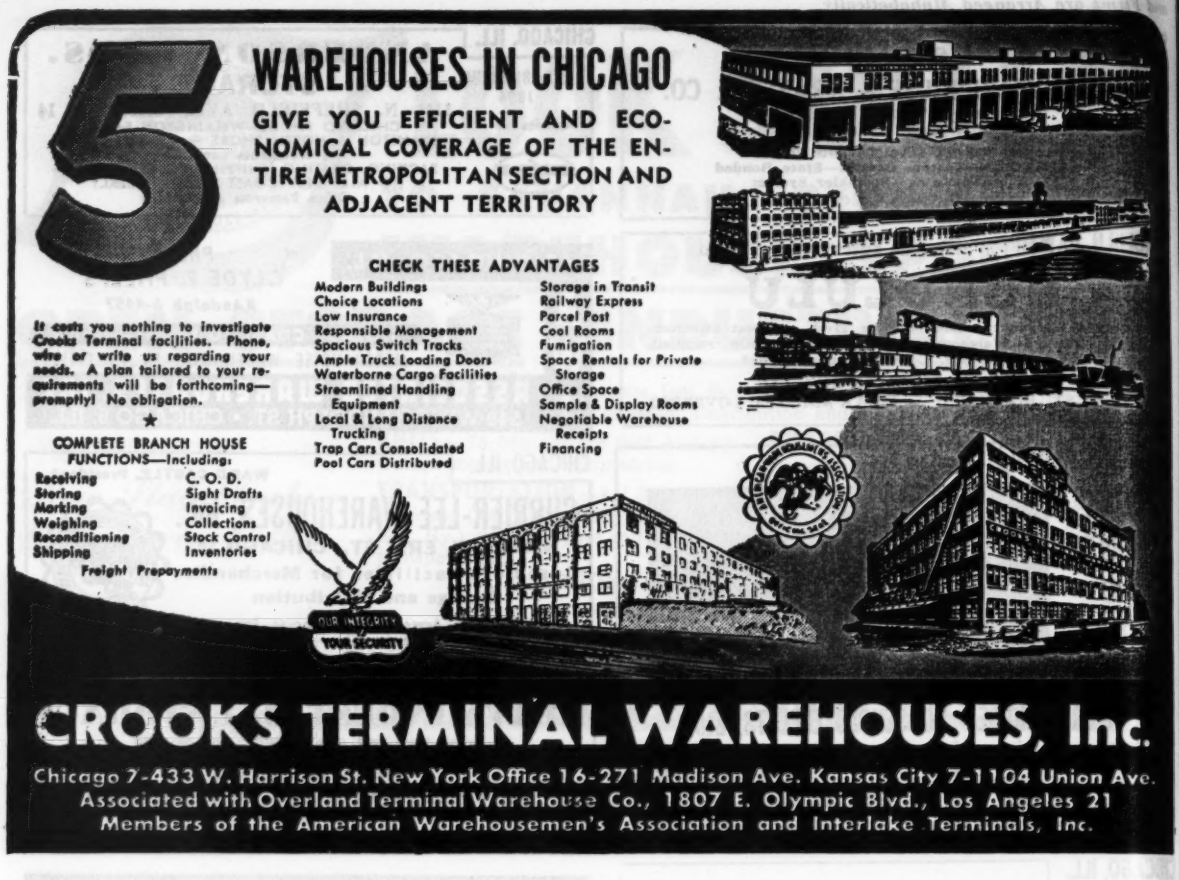

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Refrigerated Warehouse . . .

(Continued from Page 70)

city traffic. It is near enough to give good service to any point in the Twin Cities from the various intersections of the Belt Line highway that encircles the entire Minneapolis-St. Paul area, yet is able to receive perishables from, and ship to, all parts of the nation without entering city traffic.

The rapid growth of the frozen food industry, including frozen vegetables, fruits, juices, butter, eggs and ready-to-cook eviscerated poultry, fish, seafood, and meat, has created a large demand for refrigerated storage space. The Hopkins refrigerated warehouse serves an industry consisting of growers, packers, shippers, wholesale houses and commission markets, by storing these perishable foodstuffs. Some products are shipped in after being frozen on the field or at other freezer plants. Other food products, from the nearby producing area, are shipped in to be blast-frozen and stored.

Constantly increasing freight and labor costs make it more necessary than ever that merchandise be moved as directly as possible from point of production to point of consumption, Merchants officials explain. Cold storage near the point of production allows perishables to be held where they can be moved either west or east to the most advantageous market in any particular period.

Reasons for Location

A. N. Otis, president of Merchants, states that the Hopkins location, which enjoys the same freight rates and privileges for storing and freezing in transit as Minneapolis, was selected because of (1) its proximity to the large producing area of Minnesota, the east Dakotas, Wisconsin and northern Iowa; (2) the rapid but sound growth of the Twin Cities area; and (3) the strategic importance of this site for transit shipments both east for west coast frozen goods going to eastern and southern cities, and east and west for production originating in this great agricultural area.

The Hopkins plant, second established by the company in the midwest, is part of a program of diversification to complement six distribution area warehouses in the east. The in 1947 through the purchase of the St. Louis Refrigerating and Cold Storage Co., St. Louis, Mo. With completion of the Hopkins plant, Merchants now will own and operate more than 20,000,000 cu ft of refrigerated storage space in a total of eight warehouses.

John B. Frane, who has had more than 25 years' experience in refrigeration of perishable foods, is managing the new plant. •

(Resume Reading on Page 42)

—DA—

OBITUARIES

R. W. Chalmers, senior materials handling engineer, died June 19 of a heart attack. A pioneer in export packaging research who had more than 30 years' experience in the field, Mr. Chalmers' special assignments for Chevrolet covered a variety of survey and cost-construction operations. He was also supervisory chairman of the General Motors materials handling sub-committee.

Brigadier General Nelson S. Talbott, Dayton, Ohio, industrialist and a director of Trans World Airlines, died suddenly at his home in Dayton July 6. He was 60. General Talbott served in both World Wars and was recalled to duty for the Korean conflict in January of last year. He retired from active duty on his sixtieth birthday, June 10, and was scheduled to receive an honor review and the Legion of Merit late in July.

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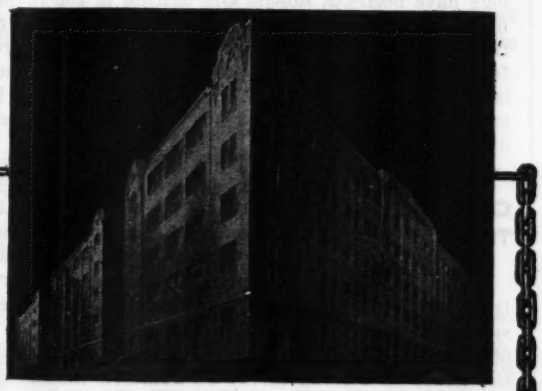

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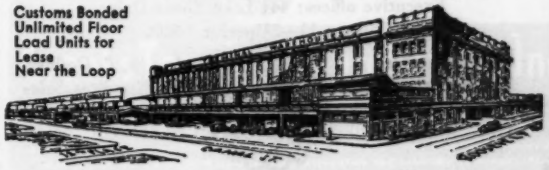

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Distinctive location in Chicago's front yard, at the mouth of the Chicago River. 840 feet office frontage at 444 and 445 Lake Shore Drive. Buildings: 365-539 E. Illinois St. Combine your office with your warehouse and service department. Space leasing. 12 minutes walk to loop. 3 blocks to Michigan Ave. Bus lines to downtown area and passenger stations. Other bus service and surface lines to loop, west and south side, with connections to elevated, subway and other cross-line traffic. Large parking area across the street.

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At 120 E. South Water St. for general storage. On New York Central Lines.

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Executive offices: 444 Lake Shore Drive,
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W. W. Huggett, Pres. and Gen. Mgr.

S. T. Heffner, Vice Pres.-Sales

Washington DA

(Continued from Page 16)

Tractor Capacity Now is the time for small manufacturers of crawler type tractors and allied equipment — such as overshot loaders, excavators, etc. — to go after government aid in expanding production capacity. Actually, the $85 million expansion goal is about 90 per cent planned. Nevertheless, as of Aug. 1, nearly $5 million worth of tax certificates and other incentive authority had been temporarily reserved for issuance to small manufacturers — those employing 2500 or less.

Naval Craft Navy is moving steadily ahead with its program for construction of new small cargo craft. Latest contract awards included orders for more than 300 small boats, largely for cargo handling, ranging from 10-ft to 120-ft in size. Included were 20 120-ft deck cargo barges, eight gasoline barges, and six steel knockdown barges. An interesting feature is that numerous of the smaller boats, ranging from dinghies to 26-ft utility boats, are to be of plastic construction.

Paperboard Plentiful The threat of shortages in the way of cardboard containers and folding paperboard boxes now seems to have disappeared. Manufacturers have been operating at less than capacity, order backlogs have been cut down. One reason is the improvement in raw materials supplies. Another is that military and defense needs are not expected to increase for the remainder of 1952 nor for early 1953. A study is under way to find out if the same outlook will hold true for requirements of the automotive and machinery parts industries.

Capitol Trends The Administration is disturbed at increasing requests for upward revision of tariff duties which have been greatly reduced under the reciprocal trade agreements. Says we must buy more in order to sell more. At the request of the Cordage Institute and others, the Tariff Commission is now investigating the effect of lowered tariffs on domestic manufacture of cords and twines made of hard fibers.

. . . Next Congress will likely receive recommendation from Army's Engineer Corps that the Chesapeake Bay-Delaware River Canal be deepened by eight feet. It is now 27 ft deep.

. . . DPA has issued 245 tax amortization certificates for expansion of transportation and storage crude oil and its products, covering $536 million in cost.

. . . First shipment of defense aid (motor vehicles, weapons and ammunition, parts, etc.) to South America left port in late July. Number of shipments and tonnages will increase.

. . . Controls and materials shortages caused first half 1952 construction of warehouses, lofts, and offices to drop to a total of $212 million—a cutback of 25 per cent from last year. •

(*Resume Reading on Page* 19)

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ASSOCIATED WAREHOUSES, INC.
AMERICAN WAREHOUSEMEN'S ASSOCIATION

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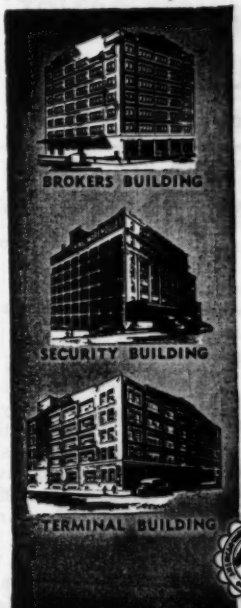

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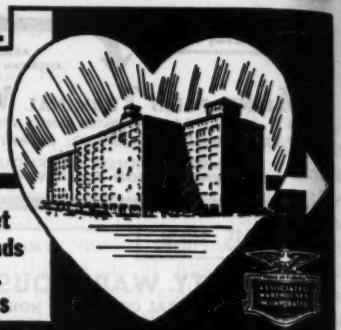

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Member National Furniture Warehousemen's Ass'n.

. . . Merchandise Warehousing

(Continued from Page 26)

(which may be a little high), public general merchandise warehouses were storing approximately 4.5 million tons in 1941 (74 per cent of 97 million sq ft divided by 16 sq ft).

"If the commercial warehousing inventory had maintained its 1941 ratio to the total inventory, by increasing its stocks on hand in proportion to the increase in the total inventory, then the volume on hand would have been 6.1 million tons (35 per cent increase over the 1941 stocks). However, by using the same factor of 16 sq ft per ton, we find that the current 85 per cent occupancy of the present 97 million sq ft of available space represents a volume on hand of only 5.1 million tons. The difference, approximately one million tons, represents roughly 16 million gross sq ft of space."

Ratio Is Lower

These figures show that producers and distributors are not using public general merchandise facilities in the same ratio today as they did 10 years ago. Where did this volume go? There are several possible answers:

1. It might have been accommodated through more efficient use of existing commercial warehouse space. This could, however, account for only a small part of it because available figures show that during the past 10 years the occupiable space in commercial warehouses has decreased in its proportion of gross space.

2. Perhaps producers and distributors have made better use of their already existing private storage space. There is no way to measure this but the increasing use of materials handling equipment and a better knowledge of inventory control and the principles of private warehousing may have been responsible.

3. The most likely answer is that producers and distributors have purchased, leased or constructed new storage space since 1941 at points where distribution can be readily handled. There are no figures to prove this but it has certainly been taking place for a number of reasons of which the following may be considered typical:

(a) Due to the complicated nature of some lines of products experience has shown them to be unsuited to public warehouse distribution;

(b) Some producers and distributors have become dissatisfied with the service rendered by public warehouses and feel that a customer calling at a private warehouse receives more individual attention;

(c) Producers want to handle

(*Please Turn to Page* 90)

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Portland 9, Oregon

. . . Merchandise Warehousing

(Continued from Page 82)

their own distribution for the advertising value or because some one has convinced them that this is the best thing to do. (It often happens that certain department heads influence the storage policy of a manufacturer in order to keep as large an organization as possible under their own control);

(d) Because the general nature of a manufacturer's business has changed since he first started using public warehouses as a link in his chain of distribution;

(e) Because of an increase in the volume of a producer's business so that the quantity handled in a given territory reaches the point where, from a dollar and cents point of view, it is just as cheap, if not cheaper, to establish his own facilities. This has been a powerful reason in recent years when public warehouse costs and rates have been rising.

What Is The Future?

What is the future of general merchandise warehousing? The answer depends on more efficient operation and better selling to possible and present users. As time has gone on the general merchandise warehouses have served two basic needs for public storage: (1) Local distribution, and (2) In-transit storage for distribution within a large area.

For the first of these the warehouses in down-town metropolitan areas are ideally located even though they are generally multi-story buildings; and through the adoption of materials handling equipment of various types they have been able to increase efficiency and hold down labor costs and render a service such as an individual manufacturer would find much too expensive to perform for himself in similar locations convenient to customers.

For the second, the present general merchandise warehouses, with some outstanding exceptions, seem poorly equipped. It is to render the "area distribution" service that the single story facilities on the fringes of metropolitan areas seems ideal. Here efficiency in handling is really the measure of return in profit to the warehouseman and it is in such buildings that the true economies of materials handling equipment such as is now available becomes apparent.

The development of modern single-story facilities can reduce operating costs to the point where present and potential customers can save money by doing business with the public warehouseman.

Better Selling Needed

Better selling of general merchandise warehouse services comes next. Recent conversations with warehousemen reveal that too many of them have adopted an attitude toward the shift from public to private storage that is "defeatist" to say the least. Too many warehousemen seem content to become landlords and rent their space to storers who do their own handling or for some other purpose.

Delivery is still a very important part of selling and with small-order buying by wholesalers and retailers on the increase, producers are already looking for ways to ease distribution headaches.

The public merchandise warehouses have at least two strong selling points:

Flexibility—Public warehouse space is much more flexible than privately

(*Please Turn to Page* 92)

and Firms are Arranged Alphabetically

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. . . Merchandise Warehousing

(Continued from Page 90)

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Years of Good Service

The general merchandise warehousing industry, as individuals and as a group, enjoys a fine reputation because it has, throughout the years, done an excellent job of providing an efficient and responsible service.

Those who use public merchandise warehousing today do so because they know it is most economical and efficient for them. They have arrived at this knowledge through a satisfying association with the industry, and perhaps an unsatisfactory experiment with other methods of distribution.

On the other hand, there are many potential users who have not yet been reached or have hesitated to investigate the use of public merchandise warehouses because they do not understand the functions and services of the industry.

Two Main Aims

Better selling on the part of the warehousing industry should be directed, therefore, at accomplishing two things:

(a) Holding and increasing the business with present customers;

(b) Reaching those who are now only potential users.

Whether this is done through action of the American Warehousemen's Association or individually by units of the industry makes little difference—so long as it is done.

—DA—

Frank E. Kearney of the J. Leo Cooke Warehouse Corp. addressed the Paterson, N J., Rotary Club recently on "Warehousing and the Part It Plays in Modern Distribution"

—DA—

Two new trailers added to the Gramm Trailer Corp. line in mid-August are now available through local distributor agencies.

—DA—

Reflecting further effects of the recent steel strike, July deliveries of new domestic freight cars totaled 5,402, more than 1,000 cars below the June figure.

—DA—

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Within the Law

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for storage the warehouseman verbally agreed to charge a specified storage rate. In view of this contradictory testimony the lower court directed a verdict in favor of the warehouseman, but the higher court reversed the decision, saying:

"The evidence for the defendant (owner of goods) showed that he expressly protested against the increase by reminding the warehouseman of his previous alleged contract. . . . The evidence as to the main point in issue, that is, as to what the contract of storage actually was, being thus in conflict, it was error to direct a verdict for the plaintiff (warehouseman)."

This court explained that a warehouseman can increase storage charges when he sees fit to do so, if the original storage contract contains a clause to this effect. Hence, it is advisable warehousemen include such a clause in their storage contracts.

Warehouse receipts and taxes: and who will pay if goods are collected?

A reader asked this question: "If both the warehouseman and the owner of goods fail to pay state or city taxes on stored goods on the date such goods are taxable, is the warehouseman liable for payment of the taxes if the goods are removed from the warehouse before the tax officials attempt to collect the taxes?"

A higher court held that a warehouseman is not liable for payment of taxes on goods although he delivered the goods to the holder of warehouse receipts who failed to pay taxes on the merchandise.

For illustration, in Uniontown v. Klemgard, 286 Pac. 648, a municipality filed suit to collect taxes on merchandise which was stored in a warehouse on March 1st, the day all merchandise in the state should, by provisions of a state law, be listed for taxation. The testimony showed that the merchandise was stored in a public warehouse, and that negotiable warehouse receipts were issued by the warehouseman to the owners of the merchandise at the time it was stored. The goods were removed from the warehouse before the tax officials attempted to collect the taxes.

In holding the warehouseman not liable for payment of taxes on the goods, the court said:

"The property originally subject to the tax was long since removed from the warehouse in which it was stored, and there is no method now open by which it can be assessed so as to make the tax a specific lien upon it. Nor can the tax now be made a charge against the then owners of the property."

PACKAGING & HANDLING

Who is liable if injury occurs from handling of goods with poor equipment?

A reader asks this question: "Is an employer liable in damages for an injury to an employe caused by defective equipment or appliances when handling merchandise in a warehouse?"

The answer is: The law imposes on the employer not only the duty of furnishing employes a "reasonably" safe place to work, but also the duty of keeping it reasonably safe. Nevertheless the law does not require that the place be kept absolutely safe at all times. Another well settled point of the law is that the duty of the employer in regard to tools and equipment is not that of an insurer, but is simply to exercise "reasonable" care to furnish the employe with reasonably safe tools and appliances, and likewise as to a safe place to work.

For illustration, in Wilson & Co. v. Holmes, 177 So. 24, it was disclosed that an employe in a warehouse was injured while moving a large container on a hand-push truck from one location to another location. He sued the employer for damages contending that the accident resulted because the floor was so rough that the unsafe push truck was caused to vibrate and rock and the containers fell upon him. The higher court re-

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fused to allow the employe damages, saying:

"The rule is that the master is not required to furnish the newest, best and safest machinery, appliances, and places to work, but his obligation is met when he exercises reasonable safe and furnishes such as are reasonably safe and suitable for the purpose in view."

Warehouse negligence— can signed contract clear one of damage in handling?

A reader asks this question: "Can a warehouseman or common carrier reduce or entirely eliminate his liability for injury to merchandise when handling or storing by having the owner of the goods sign a contract which clearly relieves the warehouseman or carrier from all liability for his negligence? What is the law where goods are damaged by water leaking through a roof?"

The law is well established that a warehouseman or common carrier, may reduce his common law liability by having owners of goods sign contracts limiting the liability, providing the damages do not result from negligence of the warehouseman or his carrier or his employes. With respect to a warehouseman the court may imply liability where the cause of the injury is not clearly exempt by the terms of the contract. Upon acceptance of the goods he impliedly, at least, warrants that he will use a degree of care reasonably sufficient to preserve and safeguard the property stored, and he cannot avoid this liability by having the owners of goods sign contracts to the contrary.

For instance, in Hansen-Rynning v. Washington Co., 209 Pac. 462, it was disclosed that a warehouseman issued a warehouse receipt which contained the provision that he should "not be liable for any loss and damage from fire, floods, rats, the elements, defective packing, or inherent tendency to decay or ignite."

The stored goods were damaged by water which leaked through a defective roof. The warehouseman contended that the above provision in the contract relieved him from liability. Notwithstanding the clause the court held the warehouseman liable, saying:

"The defendant (warehouseman) was acting in the capacity of warehouseman, and received and stored the goods for an agreed compensation, and as such was a bailee for hire, and became liable to the plaintiff (patron) for any loss or injury resulting through its negligence to the goods while in its possession. . . . It was the duty of the warehouseman to keep the roof of its warehouse in repair so that injury could not result to the goods while in its custody, and if by the exercise of such care as a reasonably careful owner of similar goods would have exercised, the defendant (warehouseman) could have anticipated the leak in the roof, or by the exercise of such care could or would have discovered the leak in time to repair the roof, or remove the goods to a place of safety before injury to the goods had resulted

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Within the Law

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therefrom, and failed to exercise such care, then the defendant (warehouseman) would be liable for the resultant injury."

The same law is applicable to persons and firms which handle merchandise. They cannot avoid liability for damage to the goods or injury to employes by having contracts signed which relieve them from liabilfty for their negligence.

TRANSPORTATION

Compromise damage suits brought against transit companies by the public

A reader asked this question: "What rule can officials of transportation companies use to decide whether to compromise damage suits filed by injured persons and employes?" We have a case now where a pedestrian was injured by our motor truck and he is suing our company for $200,000 damages. Is it possible that he could collect this excessive amount?"

The answer is: It is possible.

For illustration, in Enyart v. Santa Fe Trail Transportation Co., 241 S. W. (2d) 268, it was shown a metal advertising sign owned by the Santa Fe Trail Transportation Co. fell on a pedestrian as she walked along the sidewalk. The sign struck her head and back, injuring her. While she now lies down part of each day, she can walk about her home and the streets.

Although the pedestrian is 72 years old, the higher court awarded her $15,000 damages.

For comparison, see Summa v. Morgan Co., 165 S. W. (2d) 390. Here the injured person was 72 years, with further life expectancy of seven to eight years, and had received medical attention for arteriosclerosis and high blood pressure. She earned $15-$20 a week playing the piano for her daughter's dancing school.

The higher court allowed her $17,500 damages for an injury.

Of course, in both these cases the injured persons were relatively aged. Hence the higher court awarded what it considered as being nominal damages. The life expectancy of the injured person is a very important factor when determining the amount of damages allowable by a higher court. And although each of the above mentioned injured persons was 72, the damage allowances were relatively high. If the injured person is young, and his life expectancy is many years, the damage allowances increase accordingly.

For example, in Trowbridge v. Abrasive Co., 190 Fed. (2d) 825, one Trowbridge was 44 years old when he was injured seriously. Trowbridge sued for damages. Testimony showed that Trowbridge was permanently and totally disabled and was hospitalized for fourteen months, suffering extreme pain. The jury originally awarded $150,000, but finally "reduced it to $126,182.•

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item called for. These stencils on the same order may go to several stockmen for filling and stenciling and group according to load number so that all stockmen are working on the same order or orders. Four-wheeled flats are loaded accordingly and sent from the various stockmen all working on the same load number to checkers to compare the stockmen's fillings with the orders sent to them from the stenciler. After this check the orders are then sent to the shipper for distribution to the various carriers.

This simple system, in my estimation could very easily be adapted to overhead chain system mentioned above.

Now the unloading of inbound truckloads and carloads present a problem. Palletizing or the lift truck could be used but would that interfere with the belt system suggested? Perhaps, particularly since the one-floor operation would include the unloading, I believe that the overhead chain system could very easily be adapted by simply detaching the flats, loading them from the cars and trucks and attaching them to the chain, flagging the loads for the benefit of the several stockmen who would then detach his flat for the benefit of the stackers.

The question in my mind, would it be feasible to have the lift truck and this belt system working side-by-side within a width of 150 ft. The proposal of ceiling height of some 20 ft. would almost entail the lift truck operating of unloading and stacking to economize on the floor space and utilize vertical space.

Your suggestions and references for my research will certainly be appreciated.

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In an early issue of DISTRIBUTION AGE *we plan to present a detailed account of a one-story warehouse constructed recently by an Eastern wholesale grocery firm, whose 2100 members, incidentally, make it the largest cooperative organization of its kind in the country. Although the new building dimensions are roughly four times larger than those outlined by Mr. Infante, specifications presented in the article should prove helpful. —Ed.*•

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